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FERTILIZER ANALYSES

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ADDRESS

Chemical Department, Maryland State College of Agriculture

COLLEGE PARK, MD.

ANALYSES OF

Fertilizers Sold in Maryland

BY THE DIVISION OF APPLIED SCIENCE OF

The Maryland State College of Agriculture

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The tables on the following pages are made up of the results of the Analysis of fertilizers made at the College from September, 1917, to February, 1918, inclusive.

The majority of the samples analyzed are obtained by our sampling agents, the samples being taken while the goods are in transit, on vessels, wharves, cars or stations, from farmers' wagons, barns, etc. It is impossible for us to analyze all samples we collect; duplicates are generally omitted.

When a sample has been sent in by a farmer, his name, or initials, will be found after the "place of sampling." If "place of sampling" is not given, the sample has been made up of two or more samples taken at different places. Before sending samples of fertilizer for analysis, farmers should always send for blank forms and directions, stating the number of blanks wanted. One blank is required for each sample. No sample will be analyzed unless the proper blank form is used.

The figures in the columns headed "Ammonia," "Potash" and "Phosphoric Acid," are percentages, or pounds per hundred. To get pounds per ton multiply the per cent by 20. The columns headed "Found" contain the results found by analysis; those headed "Guaranteed" contain the essential parts of the guarantee as stamped on the bags.

The "Comparative Value Found" is calculated from the results of analysis as found in our laboratory: the "Comparative Value Guaranteed" is calculated from the manufacturers' guaranteed analysis as printed on the bags; in each case using the following schedule:

SCHEDULES FOR CALCULATING COMPARATIVE VALUES.

In Mixed Fertilizers:

For Nitrogen, calculated as Ammonia	35 cts. per lb.,	$7.00 per unit
For potash (K_2O)	25 cts. per lb.,	5.00 per unit
For Available Phosphoric Acid	6 cts. per lb.,	1.20 per unit
For Insoluble Phosphoric Acid	2 cts. per lb.,	0.40 per unit
For Insoluble Phosphoric Acid when from rock	1 ct. per lb.,	0.20 per unit

In Dissolved Rock:

Available Phosphoric Acid	6 cts. per lb.,	1.20 per unit
Insoluble Phosphoric Acid	1 ct. per lb.,	0.20 per unit

In Tankage:

For Nitrogen, calculated as Ammonia	35 cts. per lb.,	7.00 per unit
For Phosphoric Acid	3 cts. per lb.,	0.60 per unit

In Ground Bone:

For Nitrogen, calculated as Ammonia	35 cts. per lb.,	7.00 per unit
For Phosphoric Acid	3 cts. per lb.,	0.60 per unit

*Resigned March 1.
**Resigned December 1.
†After January 1.
‡Resigned February 1.
§Vacant.

At the time the above schedule was adopted the comparative values obtained by its use were not far from the proper selling prices for cash in Baltimore. Toward the last of the season, however, prices of ammoniates advanced, due to shortage of supply and the great demand for such goods. At the time this bulletin is issued ammonia costs at wholesale about $7 per unit and available phosphoric acid $1.25 per unit. At $1.25 per unit 16% acid phosphate is worth $20 per ton.

Potash is about the same in price that it was six months ago. At $5 per unit, however, the demand is limited.

The comparative values, as calculated from the tables, are intended, as the name implies, to afford a ready means of approximate comparison of similar fertilizers in terms of value, which is more readily understood by many persons than the analysis figures alone.

In the schedule for comparative values we add to the per pound schedule the equivalent for "units." To get comparative value from the guaranteed analysis, all that is necessary is to multiply the analysis figure by the value per unit and take the sum to get the comparative value per ton. For example, if the fertilizer is a 2-10-1, (2% ammonia, 10% available phosphoric acid and 1% potash), multiplying these figures by the per unit value. Thus we have 2 times $7 equals $14, 10 times $1.20 equals $12, 1 time $5 equals $5. The sum giving a comparative value of $31 per ton. This is somewhat less than such a fertilizer can be purchased at the present time, but as stated above, gives an approximate and easy method for comparison.

The increased cost of fertilizers and fertilizing materials, other than potash, is largely due to the freight situation. Phosphate rock that was formerly shipped to Baltimore by water is now shipped by rail at an increased cost.

There is a scarcity of freight cars to carry fertilizer and farmers should order their supplies well in advance of actual requirements, as such shipments are liable to be considerably delayed, due to freight car shortage.

EXPLANATION OF ANALYSES.

Nitrogen comes from various sources such as nitrate of soda, sulfate of ammonia, cyanamid, dried fish, animal tankage, etc. As the values in recognized available forms of nitrogen do not vary greatly, especially when considering the small percentage met with in the ordinary mixed fertilizer, we determine simply the total nitrogen, giving it in its equivalent of ammonia. 0.82% of nitrogen being equivalent to 1% of ammonia. There are unavailable sources of nitrogen that should not be used in fertilizer, such as hair, feathers, wool waste, dried peat, etc. The Maryland law requires that the ammonia in fertilizer be in an available form. Where material like peat are recognized in appreciable amounts the available ammonia will be determined by the standard method for making this test.

Materials containing nitrogen in unavailable forms such as hair, feathers, wool waste, leather, etc., may be changed to available forms by proper treatment with strong sulfuric acid. In practice this is done by mixing some of the material with the raw ground phosphate rock and treating the mixture with sulfuric acid as is done in making a plain dissolved rock phosphate. The mixture becomes quite hot and the prolonged treatment of the hot acid dissolves the nitrogenous material making it available. This material is called "base goods." In some cases the nitrogenous material is dissolved in hot acid and the acid then used to dissolve rock phosphate.

POTASH.

Only potash soluble in distilled water is recognized by our law and all of the potash results given in this bulletin are of potash soluble in distilled water. This gives no credit, of course, for the insoluble, unavailable and worthless potash that might be added in insoluble forms like feldspar. The soil of Maryland contains, on the average, at least 2% of insoluble potash.

PHOSPHORIC ACID

In the analysis for phosphoric acid it is divided into three parts depending upon its solubility. First the sample to be tested is extracted with pure water and the percentage of phosphoric acid extracted is called "*soluble phosphoric acid.*" The residue, insoluble in pure water is next treated with a solution of citrate of ammonia, specific gravity 1.09, for half an hour at a temperature of 65° C, and the phosphoric acid extracted by this treatment is termed "*reverted phosphoric acid.*" The soluble and reverted phosphoric acid are frequently determined together and called "*available phosphoric acid.*" The residue, after treating the sample with citrate of ammonia and extracting the reverted phosphoric acid, is dissolved in strong acid and the amount of phosphoric acid obtained is the "*insoluble phosphoric acid.*" The sum of the soluble, reverted and insoluble phosphoric acid gives the *total phosphoric acid.* In practice, however, it is found convenient to take a fresh sample of fertilizer, dissolve it in strong acid and determine the total phosphoric acid directly, and to get the available phosphoric acid by subtracting the insoluble phosphoric acid from the total phosphoric acid so obtained, thus avoiding the necessity of recovering the phosphoric acid from the citrate of ammonia solution mentioned above. It will thus be seen that the soluble phosphoric acid is included in the available phosphoric acid.

This may be made clearer by showing the relation of the various forms of phosphoric acid in a diagram as follows:

Soluble Phosphoric Acid	Available Phos. Acid	Total Phosphoric Acid
Reverted Phosphoric Acid		
Insoluble Phosphoric Acid		

The Fertilizer Situation.

The most marked recent change in the fertilizer situation has been the increasing scarcity and higher prices for nitrogenous fertilizers, or "ammoniates". The catch of fertilizer fish has been small, due to the fact that the vessels usually engaged in this industry have been taken for other work, and fish scrap, as well as slaughter house tankage, cotton seed meal, etc., have been in active demand for stock feeding. Ammonia, from sulfate of ammonia, is almost out of the fertilizer market, due to the active demand for it for munitions and in the manufacture of ice. The situation in regard to phosphates and potash has not changed much in the past season.

Maryland an Important Center for Fertilizers.

The Maryland farmer is fortunate in having within the state one of the principal centers (if not the principal center) in the world for the manufacture of commercial fertilizers. There are now consumed in the state about 200,000 tons of fertilizers annually, costing the farmers about $6,000,000. Most of this is manufactured in the state, mainly in Baltimore. Probably twice this amount manufactured here is shipped to other states, from Maine to Florida, and even to Europe. The larger factories cost hundreds of thousands of dollars. The most expensive part of the factory being the acid factory for the purpose of making sulfuric acid at the rate of 30 to 100, or more, tons per day. The factory must also have machinery for both "wet" and "dry" mixing, grinding mills for phosphate rock, tankage, bones, etc., sifting and bagging machines, power plants, storage bins, sheds, etc., for crude material and finished goods. Wharves, railroad sidings, etc.

Sulfuric Acid.

Of the greatest importance in the manufacture of fertilizers is sulfuric acid. It is also used in large quantities in the preparation of other acids and is used, either directly or indirectly, in preparing nearly all other chemicals. The amount made in the United States in a year is about 6,000,000 tons. The starting point in its manufacture is either the burning of sulfur or of pyrite, which is a compound of iron and sulfur. In either case the noxious gas, sulfur dioxide, is formed and passes into a tower, which corresponds to a chimney, and from there into a very large chamber lined with heavy sheet lead, together with an excess of air, a little nitric acid and jets of water vapor or steam. The result is sulfuric acid of about 70% strength, which is the strength used in making fertilizers.

Dissolved Rock or "Super Phosphate".

The fertilizing element most needed and most used by far is Phosphorus, which occurs in the natural phosphates of Florida, Tennessee and South Carolina. These are impure calcium phosphates

containing about 70% of tri-calcium phosphate, the so-called "bone phosphate", the other 30% being sand, calcium carbonate, fluorides, etc. The rock is washed and dried and then shipped to the fertilizer factory where it is ground to a fine powder. Sometimes this powder is used as a fertilizer without further treatment, but more than 99% of it is treated with the sulfuric acid above described. This is done in special mixers made of iron and worked by steam or electric power and managed by one man. To weigh out about half a ton of the ground rock and add nearly as much acid and thoroughly mix requires some four or five minutes. The mixture becomes quite hot and noxious gases are copiously given off. These are absorbed and decomposed by jets of water. The amount of acid used depends on the composition of the rock both in phosphate and in impurity. The object is to leave nearly all of the phosphorous in the form of calcium acid phosphate, which is soluble in water, making it quickly available to crops. The sulfuric acid combines with much of the calcium, forming calcium sulfate, which is the same as land plaster, or gypsum, and this now forms more than half of the resulting mixture that is called "dissolved rock". Its value is determined by the percent of available phosphoric acid contained, which, as usually made, is from 16 to 18%. The hot mixture is dumped into a closed brick room or "den" for a day or more and is then removed, run through crushing and sifting machinery, generally with the addition of a little drier, and is ready for market as "acid phosphate" or is used to make mixed fertilizers. In case a lower grade than 16% is desirel a filler is added during the sifting process.

If more sulfuric acid is used on the rock than indicated above—enough to combine with *all* the calcium present, the phosphoric acid is entirely set free and may be readily washed out from the plaster and other impurities by water, the solution concentrated by evaporation, and the phosphoric acid so obtained used to dissolve the rock insted of sulfuric acid. This process gives a "double superphosphate" containing over 40% of available phosphoric acid and entirely free from plaster. However, this product is not on our market.

Bone.

The only important source of phosphoric acid on the market at this time, other than rock, is bone, though the supply from this source is comparatively limited. Bone may be dissolved by acid, rendering the phosphoric acid more quickly available, or used either "raw" or "steamed". Steaming is resorted to in order to remove the greater part of the grease, which is detrimental in the fertilizer but which is quite valuable when removed. Steaming removes more or less of the nitrogenous matter, depending on the extent of the treatment, so that steamed bone always contains less "ammonia" than raw bone. Available phosphoric acid from dissolved bone is no more valuable as fertilizer than an equal amount from dissolved

rock. Phosphoric acid from raw or steamed bone, however, is decomposed quicker in the soil than that from rock. Bone, however, contains nitrogen, in addition to phosphoric acid. Raw bone should contain from 4 to 5% of ammonia and 20% of Total phosphoric acid. The finer bone is ground the quicker it is available to the crop.

AMMONIATES.

This is a general name for fertilizer materials carrying nitrogen. At present they are scarce and the price abnormally high.

Sulfate of ammonia is the richest, containing 25% of ammonia, and for that reason used in the highest grade fertilizers. Its use causes soil acidity which requires frequent applications of lime to correct.

Nitrate of Soda contains nitrogen equivalent to 18% ammonia. In spite of its high cost of about $100 per ton it is the cheapest source of nitrogen. The cost per "unit" of ammonia being about $5.50. It is very soluble and quick acting and is generally only used in the spring, frequently as a top dressing. It is not necessary to work the nitrate into the soil, as it will soak in at the first rain. Nitrate tends to make a mixed fertilizer wet, because it takes up moisture readily from the air. It is liable, also, to liberate a small part of its nitrogen as nitric acid when mixed with acid phosphate.

Slaughter House Tankage results from steaming scraps of refuse meat and bone in closed tanks to remove the fat. The residue is dried and ground for fertilizer and feed. It should contain from 7 to 9% of ammonia and 3 to 10% of phos. acid, depending on the amount of bone. As a rule the more ammonia the less phosphoric acid.

Dried Fish Scrap is prepared like tankage but from fish caught for oil and fertilizer. It contains about 10 or 12% ammonia and 5 to 8% phos. acid. It is also used for feeding purposes.

Dried Blood is a by-product from slaughter houses. It contains 12 to 14% of ammonia. It is also used as feed.

Cyanamid is made in an electric furnace. Calcium carbide is first made by heating together lime and carbon. Nitrogen prepared from the air is then passed over the heated carbide and combines with it, forming calcium cyanamid, which contains the equivalent of about 20% ammonia. It is used some in mixed fertilizers and makes a dark mixture, as it contains free carbon. It is an excellent drier and conditioner but reverts some of the phosphoric acid and is liable to give off some of its nitrogen.

Cotton Seed Meal should contain 7½% of ammonia and about 3% phos. acid. It is a good fertilizer but is generally used for feed, except in the case of spoiled meal.

Garbage Tankage results from treating the garbage collected in cities by the tank process described above. Grease is a by-product. The residue contains 3 to 4% of ammonia. It is slower in its action than the other ammoniates enumerated above.

A number of waste products that are unfit for fertilizer purposes in the raw state, such as *Hair, Feathers, Fur Scraps, Leather Scraps,* etc., because not decomposed in the soil are rendered fit for such use by the wet mixing process.

Wet Mixing.

If the unavailable animal wastes above mentioned are mixed with raw ground phosphate rock and the mixture treated with sulfuric acid they are rendered available as noted at top of page 4.

Potash

The German potash salts, Sulfate and Muriate, both with about 50% of actual potash, and Kainit, with 12% potash, are not on the market.

Some potash is obtained in this country from certain lakes in Nebraska and California, from sea weeds called "kelp" from the Pacific Ocean, from residues obtained in making sugar from beets, from cement making, from tobacco stems and from wood ashes. The latter source is the one most available to the farmer. Wood ashes should contain from 4 to 8% of potash, the greater part soluble in water, and about 25% of lime. They are alkaline and should not be mixed with acid phosphate or ammoniates. It is best to apply separately.

Home Mixing.

Some farmers buy the ingredients and mix their own fertilizer as wanted. In this way, with a few ingredients, the proportions may be varied to suit the particular crop. Home mixing should, of course, be limited to dry mixing. That is, the use of acid should not be attempted. One can decide the amount of each ingredient he wishes to use per acre and mix in that proportion and not even calculate the analysis of the mixture, tho the latter is comparatively easy. One may calculate the analysis given in the mixture from each constituent directly or he may calculate the number of pounds of ammonia, etc., from each and, if the formula is a ton, divide the pounds of each by 20 to get the per cent. For example: If 16% acid phosphate is mixed with another ingredient the latter dilutes the former and the analysis of the mixture, so far as the available phosphoric acid from the phosphate is concerned, will be less and will be in exact proportion to the amount of the phosphate in the mixture. A mixture of 1,000 pounds phosphate and 1,000

pounds 4% tankage would analyze 8% available phos. acid and 2% ammonia. If ¾ of the mixture be made acid phosphate and ¼ 12% blood, the analysis would be ¾ of 16%=12% (available phos. acid) and ¼ of 12%=3% (of ammonia). In practice it is convenient to put this on paper in the form of a table, thus:

Ingredient	Part of ton	Ammonia	Avail. phos. acid	Potash
1000 lbs. acid phosphate, 16%.....	½		8	
200 lbs. dis. bone, 2-14.....	1/10	0.2	1.4	0
100 lbs. nitrate soda, 18%.....	1/20	0.9	0	0
200 lbs. tobacco stems, 3-4-5.....	1/10	0.3	0.4	0.5
500 lbs. garbage tankage, 3-1-1....	¼	0.75	0.25	0.25
Analysis		2.15	10.05	0.75

Fertilizer To Buy.

In the purchase of fertilizers it is true economy to buy a good grade, not necessarily the highest, in the case of mixed fertilizers, but never the "low grade," as defined in Sec. 4 of the Fertilizer Law (page 29). Always buy the 16% acid phosphate. Any lower grade is made from it by the use of filler.

The "low grade" fertilizers referred to require excessive amounts of filler in the formulas and no farmer can afford to buy sand in this way. It adds to the cost for mixing, bags, freight, handling, etc. Buy a good quality, but remember the cost will be at least twice as much as the same fertilizer a few years ago. If only as much money as formerly is to be spent do not expect to get as many tons. To do so means a serious lowering of quality. It is much better business policy and true economy to keep up the quality, even if forced to buy less.

Fertilizer Used In Maryland—Tons To The Nearest Thousand.

1913	1914	1915	1916	1917
178,000	179,000	170,000	155,000	193,000

No.	Name and Address of Manufacturer and Name of Fertilizer	Place of Sampling (and Sender's initials when not Sampled by the College Agent)	NITROGEN Calculated as AMMONIA.		POTASH. K_2O.		PHOSPHORIC ACID.					Comparative Value Per Ton Found.	Comparative Value Per Ton Guaranteed
							Water Soluble	Insoluble		Available			
			Found.	Guaranteed.	Found.	Guaranteed.	Found. Included in Available.	Found.	Guaranteed.	Found.	Guaranteed.		
	Alexandria Fert. & Chem. Co.,	**Alexandria, Va.**											
36177	Defiance Phosphate	Baltimore	1.09	1.00	1.06	1.00	4.95	1.00	.....	9.23	8.00	$24.41	$21.60
36144	Reliable Amm'd Super-Phos.	Baltimore	1.67	1.25	.....	.....	7.25	1.30	.....	9.90	10.00	24.09	20.75
	American Agricultural Chemical	**Co., N. Y., N. Y.**											
36038	Acid Phosphate 14%	Baltimore	.....	.....	.....	.....	9.80	1.30	.....	14.31	14.00	17.43	16.80
36121	Acid Phosphate 16%	Baltimore	.....	.....	.....	.....	15.10	.95	.....	16.47	16.00	19.95	19.20
36464	Acid Phosphate 16%	Ellicott City (H. M)	.....	.....	.....	.....	12.75	.88	.....	16.07	16.00	19.46	19.20
36060	Acid Phosphate 12% (Low Gr.)	Baltimore	.....	.....	.....	.....	8.60	1.35	.....	11.83	12.00	14.47	14.40
36068	Ammoniated Fertilizer	Chestertown	2.04	2.00	.....	.....	5.05	1.72	.....	8.23	8.00	24.85	23.60
36137	Ammoniated Fertilizer	Baltimore	1.52	1.00	.....	.....	6.50	1.35	.....	9.49	12.00	22.57	21 40
36025	Ammoniated Fertilizer "A"	Baltimore	1.08	1.00	.....	.....	6.30	1.60	.....	10.21	10 00	20.45	19.00
36087	Ammoniated Fertilizer "AA"	Ellicott City	2.10	2.00	.....	.....	6 00	1.55	.....	9.78	10.00	27.06	26 00
36158	Ammoniated Fertilizer "AA"	Chest't'n (W. M. S.)	2.18	2.00	.....	.....	7.65	.87	.....	10.84	10.00	28.62	26 00
36088	Ammoniated Fertilizer "XXX"	Ellicott City	1.72	1.50	.....	.....	6.20	1 65	.....	9.83	10.00	24.50	22.50
36111	Ammoniated Phosphate	Whiteford	2.17	2.00	.92	1.00	1.85	2.17	.....	8.19	9.00	30.49	29.80
36136	Ammoniated Super-Phosphate	Baltimore	2.22	2.00	.....	.....	8.75	1.97	.....	11.67	12.00	30.33	28 40
36145	Ammoniated Super-Phosphate	Baltimore	2.29	2.00	.....	.....	8.80	1.87	.....	11 69	12.00	30.81	28.40
36460	Ammoniated Super. Phosphate	Massey (W. M. S.)	2.25	2.00	.....	.....	7.95	2.60	.....	11.68	12.00	30 81	28.40
36093	Amm'd Super-Phos. (L. Gr.)	Baltimore	1.04	1.00	.....	.....	5.20	1.48	.....	7.84	8.00	17.28	16.60
36080	Basic Lime Phosphate (L. Gr.)	Baltimore		.....	.....	.....	1.45	1.55	1.00	13.11	13.00	16.04	15.80
36146	Bone Meal	Baltimore	3.17	3.00	.....	.....	.....	*15.61	*13.73	.....	.....	31 56	29.24
36138	Champion Stag Phos. 1916	Baltimore	1.08	1.00	.92	1.00	3.70	1.35	.....	9.06	9.00	23.57	22.80
36061	Dead Shot Phos. 1916 (L. Gr.)	Baltimore	.60	.50	.94	1.00	2.65	1.35	.....	8.07	8.00	19.12	18.10

36122	Diamond Wheat & Grass Spec..	Baltimore.....	2.03	1.50	.....	.....	7.45	2.00	.....	9.71	10.00	$26.66	$22.50
36457	Diamond Wheat & Grass Spec..	Chest't'n (W M. S.)	1.85	1.50	.....	.....	5.60	1.22	.....	9.57	10.00	24.92	22.50
36178	Dissolved Animal Bone.....	Baltimore.....	2.51	2.50	.....	.....	8 35	4.50	.....	12.33	12.00	34.17	31.90
36094	Fine Ground Bone.....	Towson.....	3.17	3.00	.....	.....	.....	*23.32	*22.88	.....	.....	36.18	34.73
36009	Harvest Queen Phosphate 1916.	Baltimore.....	1.76	1.50	.....	.....	2.60	1.75	.....	9.77	10.00	24.74	22.50
36179	Special Complete Fertilizer.....	Baltimore.....	1.19	1.00	1.94	2.00	3.35	1.40	.....	8.36	8.00	28.62	26.60
36139	Standard Grain & Grass.....	Baltimore.....	2.12	2.00	.....	.....	8.45	2.10	.....	11.45	12.00	29.42	28.40
	A. A. C. Co., (Detrick), Balto., Md.												
36176	Imperial Compound 1916.....	Baltimore.....	1.01	1.00	.80	1.00	5.20	1.52	.....	11.30	10.00	25.24	24.00
36089	Paragon Am. Phos.&Pot. (L.G.)	Baltimore.....	1.14	1.00	.88	1.00	3.30	1.65	.....	6.64	7.00	21.01	20.40
36123	Royal Crop Grower 1916.....	Baltimore.....	2.13	2.00	1.02	1.00	2.65	2.27	.....	7.88	9.00	30.38	29.80
	A. A. C. Co., (Lazaretto), Balto., Md.												
36147	Ammoniated Phosphate.....	Baltimore.....	1.42	1.00	1.06	1.00	3.55	1.62	.....	7.85	8.00	25.31	21.60
	A. A. C. Co., (Susquehanna), Balto., Md.												
36112	Crop Grower (Low Grade)	Whiteford.	1.13	1.00	.96	1.00	3.05	1.65	.....	6.40	7.00	21.05	20.40
	A. A. C. Co., (Zell), Baltimore, Md.												
36026	Economizer Phosphate 1916.....	Baltimore.....	1.14	1.00	.92	1.00	2.80	1.45	.....	8.02	8.00	22.78	21.60
36172	Little Treasure (L. G.).....	Laurel.....	1.19	1.00	1.04	1.00	4.00	1.55	.....	8.97	7.00	24.91	20.40
36173	Special Compound 1916 (L. G.)..	Hyattsville	3.09	3.00	1.06	1.00	4.80	1.27	.....	9.03	9.00	38.28	36.80
	American Fertilizing Co., Balto., Md.												
36124	Acid Phosphate 12% (L. G.)....	Baltimore.....	.....	.....	.....	.....	10.40	2.25	.....	12.59	12.00	15.56	14.40
36163	Ammoniated Crop Compound...	Baltimore.....	1.06	1.00	1.88	2.00	5.00	1.67	1.00	8.37	8.00	27.53	27.00
36095	Champion Amm'd Super-Phos..	Baltimore..	2 02	2.00	.....	.....	6.50	2.12	1 00	10.01	10.00	27.00	26.40
36042	Eagle Super-Phos. (L. Gr.)....	Sykesville	.58	.50	.....	.....	3.70	1.65	1.00	8.03	8.00	14.36	13.50
36140	Fish & Bone Special	Baltimore.....	2.03	2.00	.....	.....	6.65	2.52	1.00	11.08	11.00	28.52	27.60
36043	Fish & Bone Special	Rockville	2 17	2.00	.....	.....	7.30	2.17	1.00	11.05	11.00	29.32	27.60
36063	Grain & Grass Phosphate.....	Baltimore.....	1.21	1.00	.....	.....	4.35	2.85	1.00	8.26	9.00	19.52	18.20
36045	Grain Rel. Amm'd Form (L.G.)	Sykesville	.56	.50	.....	.....	5.00	1.77	1.00	9.53	10.00	16.07	15.90
36165	H. G. Acid Phosphate 14%.....	Baltimore.....	.....	.....	.....	.....	12.00	2.10	.....	13.25	14.00	16.32	16.80
36081	H. G. Acid Phosphate 16%.....	Baltimore.....	.....	.....	.....	.....	12.05	1.40	.....	16.07	16.00	19.56	19.20
36125	Reliable Guano.....	Baltimore.....	1.26	1.00	1.02	1.00	5.90	1.27	1.00	7.61	8.00	23.56	22.00
36062	Special Fish Guano.....	Baltimore.....	1.18	1.00	.....	.....	4.30	2.75	1.00	9.05	10.00	20.22	19.40
36039	Spec. American Fish Guano....	Baltimore.....	1.11	1.00	.....	.....	4.15	3.12	1.00	8.91	10.00	19.71	19.40
36113	Special Formula (Low Grade)..	Cardiff.....	.97	.50	2.28	2.00	4.40	1.60	1.00	8.54	8.00	29.08	23.50
36185	Special Formula (Low Grade)..	Baltimore.....	.65	.50	1.96	2.00	6.35	1.67	.....	8.88	8.00	25.68	23.10

*Total Phosphoric Acid.

No	Name and Address of Manufacturer and Name of Fertilizer	Place of Sampling (and Sender's initials when not Sampled by the College Agent)	NITROGEN Calculated as AMMONIA.		POTASH. K_2O.		PHOSPHORIC ACID.					Comparative Value Per Ton Found.	Comparative Value Per Ton Guaranteed
							Water Soluble	Insoluble		Available			
			Found.	Guaranteed.	Found.	Guaranteed.	Found. Included in Available.	Found.	Guaranteed.	Found.	Guaranteed.		
	Armour Fertilizer Works, Inc., Balto., Md.												
36000	Acid Phosphate 14%	Baltimore	.....	.....	.....	.....	11.60	2.07	.....	13.82	14.00	$16.99	$16.80
36001	Acid Phosphate 16%	Baltimore	.....	.....	.....	.....	12.15	1.72	.....	16.10	16.00	19.66	19.20
36463	Acid Phosphate 16%	Sudlersville (R. B. M.)	.....	.....	.....	.....	12.75	2.05	.....	16.71	16.00	20.46	19.20
36069	Acidulated Bone Meal	Chestertown	1.96	2.00	.....	.....	5.30	2.80	.....	11.45	11.00	28.58	27.20
36002	Bone Meal	Baltimore	2.75	3.00	.....	.....	.....	*25.15	*22.00	.....	.....	34.34	34.20
36010	Crop Grower	Baltimore	1.09	1.00	1.92	2.00	3.85	1.50	.....	8.14	8.00	27.60	26.60
36027	General Fertilizer	Baltimore	2.03	2.00	2.12	2.00	5.50	1.45	.....	7.59	8.00	34.50	33.60
36090	1½-9-0 Fertilizer	Baltimore	1.51	1.50	.....	.....	6.25	1.28	.....	9.10	9.00	22.00	21.30
36003	1-10-0 Fertilizer	Baltimore	1.01	1.00	.....	.....	7.50	1.05	.....	9.58	10.00	18.99	19.00
36166	1-12-0 Fertilizer	Baltimore	1.09	1.00	.....	.....	8.45	2.27	.....	11.63	12.00	22.50	21.40
36004	Raw Bone Meal	Baltimore	4.73	4.50	.....	.....	.....	*22.75	*21.50	.....	.....	46.76	44.40
36456	Special Mixture	New Market (C. D. W.)	2.06	2.00	.....	.....	9.75	1.82	.....	14.33	13.20	32.35	29.84
36065	Star Phosphate	Baltimore	.....	.....	.....	.....	11.45	.97	.....	14.06	14.00	17.06	16.80
36064	2-10-0 Fertilizer	Baltimore	1.95	2.00	.....	.....	6.60	1.45	.....	9.66	10.00	25.82	26.00
36148	Wh't, Corn & Oats Spec. (L. G.)	Baltimore	1.08	1.00	1.04	1.00	4.00	1.80	.....	7.06	7.00	21.95	20.40
	Baltimore Fertilizer Co., Balto., Md.												
36114	Honest Acid Phosphate	Bel Air	.....	.....	.....	.....	12.20	2.77	.....	13.73	14.00	17.03	16.80
36126	Honest Acid Phosphate 16%	Baltimore	.....	.....	.....	.....	13.85	1.85	.....	15.51	16.00	18.98	19.20
36115	Honest Ammoniated Bone	Bel Air	2.01	2.00	.....	.....	4.45	3.27	.....	8.62	9.50	25.72	25.40
36011	Honest Bone Phosphate (L. G.)	Baltimore	.60	.50	.18	.25	.40	11.25	.....	5.60	7.00	16.32	13.15
36018	Honest Harvest (Low Grade)	Baltimore	1.33	1.25	.38	.25	3.35	1.85	.....	9.43	9.00	23.27	20.80
36031	Honest Wheat Grower	Baltimore	1.38	1.00	.....	.....	5.65	1.85	1.00	10.57	10.00	23.08	19.40

36188	Honest Wheat &Grass Grower.	Baltimore.....	2 41	2.00	.....	.....	.90	4.75	.....	7.65	10.00	27.95	26.00
36012	Old Honesty (Low Grade).....	Baltimore.....	1.31	1.00	.30	.25	.50	3.92	.....	6.98	8.00	20.62	17.85
	Baltimore Pulverizing Co., Balto., Md.												
36127	Ammoniated Butcher's Bone...	Baltimore.....	1 89	1.00	.....	.....	1.15	1.02	.....	7.43	9.00	22.56	17.80
36128	Farmer's Favorite Fert. (L. G.)	Baltimore.....	1.01	1.00	1.04	1.00	1.80	.75	.....	7.51	7.50	21.58	21.00
36149	Harvest Queen.....	Baltimore.....	.85	1.00	.96	1.00	1.25	1.35	.....	10.02	10.00	23.31	24.00
36129	High Grade Wheat.....	Baltimore.....	1.62	2.00	.....	.....	6.35	1.17	.....	11.29	10.00	25.36	26.00
36082	Penniman's Excelsior Fert.....	Baltimore.....	.....	.....	.94	1.00	.70	2.47	.....	9.95	12.00	17.13	19.40
36083	Practical Fertilizer (L. Gr.)...	Baltimore.....	1.16	1.00	.....	.....	1.70	1.07	1.00	8.21	8.00	18.40	17.00
36084	Spec. Spring & Fall Mix. (L.Gr)	Baltimore	.....	.....	.88	1.00	.45	2.05	.....	9.22	8.00	15.87	14.60
	Baugh & Sons Co., Baltimore, Md.												
36013	Acid Phosphate 16%.....	Baltimore.....	.....	.....	.....	.....	14.45	.70	.....	16 74	16.00	20.23	19.20
36455	Acid Phosphate 16%...	Mt. Airy (J. N. C.)	... ..	.....	.....	.....	15.05	1.82	.....	16.62	16.00	20.30	19.20
36466	Acid Phosphate 16%	Cecilton (E. N. C.)	.....	.....	.....	.....	15.00	1.73	.....	16.92	16.00	20.65	19.20
36070	Amm'd Soluble Alkaline (L.Gr.)	Conowingo.....	.85	.50	.66	.50	8.40	1.80	.....	9.90	8.00	21.85	15.60
36040	Animal Base & Potash Comp...	Baltimore.....	2.06	2.00	1.30	1.00	6.60	1.50	.....	8.77	9.00	32.04	29.80
36130	Double Eagle Phosphate	Baltimore.....	1.69	2.00	.94	1.00	7.75	2.37	.....	9.27	8.50	28.60	29.20
36071	Excelsior Guano.....	Conowingo.....	1.31	1.25	1.24	1.00	8.35	1.55	.....	10.02	10.00	28.01	25.75
36046	Fish Mixture.	Rockville	2.03	2.00	1.12	1.00	7.55	2.25	.....	9.88	9.00	32.57	29.80
36047	General Crop Grower.....	Mt. Airy.....	1.48	1.00	1.28	1.00	5.05	2.20	.....	8.16	8.00	27.43	21.60
36032	Half & Half Mixture.....	Baltimore.....	1.64	1.50	.....	.....	6.95	7.07	7.00	12.03	12.00	28.75	27.70
36168	Mixed to Order Fert. 1916.....	Baltimore.....	2.18	2.00	1.14	1.00	6.75	3.15	.....	8.56	8.50	32.49	29.20
36021	Old Stand-By Dis. Animal Base.	Baltimore.....	2.24	2.00	.....	.....	8.35	2.87	.....	11.92	12.00	31.13	28.40
36014	Peninsula Grain Producer.....	Baltimore.....	1.37	1.00	.....	.....	6.85	1.07	.....	9.21	9.00	21.07	17.80
36020	Pure Bone Meal.....	Baltimore.....	4.64	4.00	.....	.....	.....	*21.07	*20.50	....	.....	45.12	40.30
36454	Pure Bone Meal.....	Mt. Airy (J. N. C.)	4.78	4.00	.....	.....	.....	*20.96	*20.50	.....	.....	46.04	40.30
36180	Pure Dissolved Animal Bones...	Baltimore.....	2.82	2.50	.....	.....	3.00	2.07	.....	15.23	13.00	38.85	33.10
36072	Pure Steamed Bone.....	Greensboro	2.59	2.00	.....	.....	.....	*26.46	*25.00	.....	.....	34 01	29.00
36015	Wheat Fertilizer 2-10-0.....	Baltimore.....	2.05	2.00	.....	.....	6.90	1.60	.....	9.83	10.00	26.79	26.00
33470	Wheat Fertilizer 2-10-0.....	Federalsburg (H. C. S.)..	2.15	2.00	.....	.....	7.90	2.97	.....	9.49	10.00	27.63	26.00
	Beckley Fertilizer Co., Half Way, Md.												
36156	Bone Mixture	Half Way..... ...	1.57	1.50	.....	.....	12.20	1.17	.....	14.02	14.00	28.28	27.30
	N. T. Bennett, New Windsor, Md.			1.00									
36048	Butcher House Bone.....	New Windsor.....	1.08		.....	.....	7.30	1.12	.....	11.03	11.00	21.25	20.20
36049	Wheat Grower (Low Grade)....	New Windsor.....	1.02	1.00	.....	.....	5.00	1.47	.....	9.23	8.00	18.81	16.60

*Total Phosphoric Acid.

No	Name and Address of Manufacturer and Name of Fertilizer	Place of Sampling (and Sender's initials when not Sampled by the College Agent)	NITROGEN Calculated as AMMONIA.		POTASH. K_2O.		PHOSPHORIC ACID.					Comparative Value Per Ton Found.	Comparative Value Per Ton Guaranteed
							Water Soluble	Insoluble		Available			
			Found.	Guaranteed.	Found.	Guaranteed.	Found. Included in Available.	Found.	Guaranteed.	Found.	Guaranteed.		
	Armour Fertilizer Works, Inc., Balto., Md.												
36000	Acid Phosphate 14%	Baltimore	.....	.....	.....	.....	11.60	2.07	.....	13.82	14.00	$16.99	$16.80
36001	Acid Phosphate 16%	Baltimore	.....	.....	.....	.....	12.15	1.72	.....	16.10	16.00	19.66	19.20
36463	Acid Phosphate 16%	Sudlersville (R. B. M.)	.....	.....	.....	.....	12.75	2 05	.....	16.71	16.00	20.46	19.20
36069	Acidulated Bone Meal	Chestertown	1.96	2.00	.....	.....	5.30	2.80	.....	11.45	11.00	28.58	27.20
36002	Bone Meal	Baltimore	2.75	3.00	.....	.....	.....	*25.15	*22.00	.....	.....	34.34	34.20
36010	Crop Grower	Baltimore	1.09	1.00	1.92	2.00	3.85	1.50	.....	8.14	8.00	27.60	26.60
36027	General Fertilizer	Baltimore	2.03	2.00	2.12	2.00	5.50	1.45	.....	7.59	8.00	34.50	33.60
36090	1½-9-0 Fertilizer	Baltimore	1.51	1.50	.....	.....	6.25	1.28	.....	9.10	9.00	22.00	21.30
36003	1-10-0 Fertilizer	Baltimore	1.01	1.00	.....	.....	7.50	1.05	.....	9.58	10.00	18.99	19.00
36166	1-12-0 Fertilizer	Baltimore	1.09	1.00	.....	.....	8.45	2.27	.....	11.63	12.00	22.50	21.40
36004	Raw Bone Meal	Baltimore	4.73	4.50	.....	.....	.....	*22.75	*21.50	.....	.....	46.76	44.40
36456	Special Mixture	New Market (C. D. W.)	2.06	2.00	.....	.....	9.75	1.82	.....	14.33	13.20	32.35	29.84
36065	Star Phosphate	**Baltimore**	.....	.....	.....	.....	11.45	.97	.....	14.06	14.00	17.06	16.80
36064	2-10-0 Fertilizer	Baltimore	1.95	2.00	.....	.....	6.60	1.45	.....	9.66	10.00	25.82	26.00
36148	Wh't, Corn & Oats Spec. (L. G.)	Baltimore	1.08	1.00	1.04	1.00	4.00	1.80	.....	7.06	7.00	21.95	20.40
	Baltimore Fertilizer Co., Balto., Md.												
36114	Honest Acid Phosphate	Bel Air	.....	.....	.....	.....	12.20	2.77	.....	13.73	14.00	17.03	16.80
36126	Honest Acid Phosphate 16%	Baltimore	.....	.....	.....	.....	13.85	1.85	.....	15.51	16.00	18.98	19.20
36115	Honest Ammoniated Bone	Bel Air	2.01	2.00	.....	.....	4.45	3.27	.....	8.62	9.50	25.72	25.40
36011	Honest Bone Phosphate (L. G.)	Baltimore	.60	.50	.18	.25	.40	11 25	.....	5.60	7.00	16.32	13.15
36018	Honest Harvest (Low Grade)	Baltimore	1.33	1.25	.38	.25	3.35	1.85	.....	9.43	9.00	23.27	20.80
36031	Honest Wheat Grower	Baltimore	1.38	1.00	.....	.....	5.65	1.85	1.00	10.57	10.00	23.08	19.40

36188	Honest Wheat &Grass Grower.	Baltimore	2 41	2.00	.....	.....	.90	4.75	.....	7.65	10.00	27.95	26.00
36012	Old Honesty (Low Grade)	Baltimore	1.31	1.00	.30	.25	.50	3.92	.....	6.98	8.00	20.62	17.85
	Baltimore Pulverizing Co., Balto., Md.												
36127	Ammoniated Butcher's Bone	Baltimore	1 89	1.00	.....	.....	1.15	1.02	.....	7.43	9.00	22.56	17.80
36128	Farmer's Favorite Fert. (L. G.)	Baltimore	1.01	1.00	1.04	1.00	1.80	.75	.....	7.51	7.50	21.58	21.00
36149	Harvest Queen	Baltimore	.85	1.00	.96	1.00	1.25	1.35	.....	10.02	10.00	23.31	24.00
36129	High Grade Wheat	Baltimore	1.62	2.00	.....	.....	6.35	1.17	.....	11.29	10.00	25.36	26.00
36082	Penniman's Excelsior Fert	Baltimore	.....	.....	.94	1.00	.70	2.47	.....	9.95	12.00	17.13	19.40
36083	Practical Fertilizer (L. Gr.)	Baltimore	1.16	1.00	.....	.....	1.70	1.07	1.00	8.21	8.00	18.40	17.00
36084	Spec. Spring & Fall Mix. (L.Gr)	Baltimore	.....	.....	.88	1.00	.45	2.05	.....	9.22	8.00	15.87	14.60
	Baugh & Sons Co., Baltimore, Md.												
36013	Acid Phosphate 16%	Baltimore	.....	.....	.....	.....	14.45	.70	.....	16 74	16.00	20.23	19.20
36455	Acid Phosphate 16%	Mt. Airy (J. N. C.)	.....	.....	.....	.....	15.05	1.82	.....	16.62	16.00	20.30	19.20
36466	Acid Phosphate 16%	Cecilton (E. N. C.)	.....	.....	.....	.....	15.00	1.73	.....	16.92	16.00	20.65	19.20
36070	Amm'd Soluble Alkaline (L.Gr.)	Conowingo	.85	.50	.66	.50	8.40	1.80	.....	9.90	8.00	21.85	15.60
36040	Animal Base & Potash Comp.	Baltimore	2.06	2.00	1.30	1.00	6.60	1.50	.....	8.77	9.00	32.04	29.80
36130	Double Eagle Phosphate	Baltimore	1.69	2.00	.94	1.00	7.75	2.37	.....	9.27	8.50	28.60	29.20
36071	Excelsior Guano	Conowingo	1.31	1.25	1.24	1.00	8.35	1.55	.....	10.02	10.00	28.01	25.75
36046	Fish Mixture	Rockville	2.03	2.00	1.12	1.00	7 55	2.25	.....	9.88	9.00	32.57	29.80
36047	General Crop Grower	Mt. Airy	1.48	1.00	1.28	1.00	5.05	2.20	.....	8.16	8.00	27.43	21.60
36032	Half & Half Mixture	Baltimore	1.64	1.50	.....	.....	6.95	7.07	7.00	12.03	12.00	28.75	27.70
36168	Mixed to Order Fert. 1916	Baltimore	2.18	2.00	1.14	1.00	6.75	3.15	.....	8.56	8.50	32.49	29.20
36021	Old Stand-By Dis. Animal Base.	Baltimore	2.24	2.00	.....	.....	8.35	2.87	.....	11.92	12.00	31.13	28.40
36014	Peninsula Grain Producer	Baltimore	1.37	1.00	.....	.....	6.85	1.07	.....	9.21	9.00	21.07	17.80
36020	Pure Bone Meal	Baltimore	4.64	4.00	.....	.....	.....	*21.07	*20.50	...	.....	45.12	40.30
36454	Pure Bone Meal	Mt. Airy (J. N. C.)	4.78	4.00	.....	.....	.....	*20.96	*20.50	.....	.....	46.04	40.30
36180	Pure Dissolved Animal Bones	Baltimore	2.82	2.50	.....	.....	3.00	2.07	.....	15.23	13.00	38.85	33.10
36072	Pure Steamed Bone	Greensboro	2.59	2.00	.....	.....	.....	*26.46	*25.00	.....	.....	34 01	29.00
36015	Wheat Fertilizer 2-10-0	Baltimore	2.05	2.00	.....	.....	6.90	1.60	.....	9.83	10.00	26.79	26.00
36470	Wheat Fertilizer 2-10-0	Federalsburg (H. C. S.)	2.15	2.00	.....	.....	7.90	2.97	.....	9.49	10.00	27.63	26.00
	Beckley Fertilizer Co., Half Way, Md.												
36156	Bone Mixture	Half Way	1.57	1.50	.....	.....	12.20	1.17	.....	14.02	14.00	28.28	27.30
	N. T. Bennett, New Windsor, Md.			1.00									
36048	Butcher House Bone	New Windsor	1.08		.....	.....	7.30	1.12	.....	11.03	11.00	21.25	20.20
36049	Wheat Grower (Low Grade)	New Windsor	1.02	1.00	.....	.....	5.00	1.47	.....	9.23	8.00	18.81	16.60

*Total Phosphoric Acid.

No.	Name and Address of Manufacturer and Name of Fertilizer	Place of Sampling (and Sender's initials when not Sampled by the College Agent)	NITROGEN Calculated as AMMONIA.		POTASH. K_2O.		PHOSPHORIC ACID.					Comparative Value Per Ton Found.	Comparative Value Per Ton Guaranteed
							Water Soluble	Insoluble		Available			
			Found.	Guaranteed.	Found.	Guaranteed.	Found. Included in Available.	Found.	Guaranteed.	Found.	Guaranteed.		
	Berg Company, Philadelphia, Pa.												
36116	Animal Bone & Meat	Perryman	3 62	4.00	.....	.....	.....	*19.88	*17.00	.....	.....	$37.27	$38.20
36117	Raw Bone	Fallston	4.32	4.50	.....	.....	.....	*21.58	*21.50	.....	.....	43.19	44.40
36118	Special Bone Manure	Perryman	2.58	2.43	.....	.....	6.40	4.07	...	9.40	7.00	30.97	25.41
	Bowker Fertilizer Co., Boston, Mass.												
36106	Amm'd O. I. O. Phos. (L.Gr.)	Melrose	.89	.75	.....	.....	6.75	1.65	.....	9.43	10.00	18.21	17.25
36174	Super-Phos. with Ammonia 2%	Laurel	1.50	2.00	.....	.....	7.30	1.57	.....	10.48	10.00	23.71	26.00
	Bryant Fertilizer Co., Alexandria, Va.												
36169	Phosphate 16%	Baltimore	.....	.....	.....	.....	13.65	1.54	.....	15 84	16.00	19.32	19.20
36170	Phosphate 12% (L. Gr.)	Baltimore	.....	.....	.....	.....	12.10	1.65	.....	13.94	12.00	17.06	14 40
36151	Slaughter House Bone	Baltimore	1.42	1.25	.....	.....	5.70	2.77	.....	8.75	10.00	21.55	20.75
	Herbert Bryant's Son, Alexandria, Va.												
36050	Standard Empress Amm'd Bone.	Washington Grove.	1.33	1.25	.....	.....	7.60	1.47	.....	11 25	10.00	23.40	20 75
36051	Standard Fish & Bone	Germantown	2.08	2.00	.....	.....	5.65	1.62	.....	10.14	10.00	27.38	26.00
	Chesapeake Chemical Co., Balto., Md.												
36141	Acid Phosphate 14%	Baltimore	.....	.....	.....	....	13.00	1.85	.....	14.28	14.00	17.51	16.80
36096	Dissolved Phosphate	Baltimore	.....	.....	.....	.....	14.40	.83	.....	16.74	16.00	20 26	19.20
36131	Gem Phosphate (Low Grade)	Baltimore	1.16	1.00	.....	.....	2.85	2.00	.....	8.15	8.00	18.70	16.60
36132	Money Producer	Baltimore	1.08	1.00	.74	1.00	2.65	3.20	.....	7.72	8.00	21.80	21.60

	Cen. Chem. Co., Thomas Fert. Wks., Hagerstown, Md.												
36033	Ammoniated Phos. (Low Gr.)	Emmitsburg	.80	.50	.....	.....	4.75	1.02	.....	8.68	8.00	$16. 3	$13.10
36157	Bone Compound	Hagerstown	1.72	1.50	.....	.....	11.45	.97	.....	13.74	14.00	28.92	27.30
36158	Dissolved Bone	Willismsport	2.64	2.50	.....	.....	8.45	2.70	.....	11.95	13.00	33.90	33.10
36092	Dissolved Phosphate	Myersville	.....	.....	.....	.....	13.40	1 53	.....	15.85	16.00	19.33	19.20
36159	Dominion	Hagerstown	2.06	2.00	2.40	2.00	8.80	1.32	.....	13.06	13.00	42.62	39.60
36465	Dominion	Hagerstown J. V. J.	2.20	2.00	2.44	2.00	8.75	1.25	.....	13.25	13.00	44.00	39.60
36160	Fish, Bone Compound	Williamsport	1.59	1.50	.....	.....	7.65	1.32	.....	10.03	10.00	23.70	22.50
36034	Pride of the Valley	Emmitsburg	1.09	1.00	.....	.....	6.05	1.82	.....	9.94	10.00	20.29	19.00
36161	Special Bone Mixture	Williamsport	1.86	2.00	.....	.....	5.80	1.12	.....	10.08	10.00	25.57	26.00
36035	Superior	Graceham	.89	1.00	.....	.....	10.45	.70	.....	12.47	12.00	21.47	21.40
	Josiah Cope & Co., Baltimore, Md.												
36171	Ammoniated Fertilizer "AA"	Baltimore	1.93	2.00	.....	.....	7.90	.90	.....	9.51	10.00	25.28	26.00
36152	Wheat & Grass Special	Baltimore	1.19	1.00	1.10	1.00	5.60	1.00	.....	8 88	8.00	24.89	21.60
	L. E. P. Dennis & Son, Crisfield, Md.												
36097	No. 1 Mixture	Baltimore	2.29	2.00	.....	.....	7.60	1.10	.....	10.39	12.00	28.94	28.40
	Joshua W. Dorsey, Ellicott City, Md.												
36091	Mixture "D" Rev. 1916	Ellicott City	2.53	2.40	.....	.....	7.55	1.82	1.50	10.02	10.00	30.46	29.40
	Edelen Bros., Baltimore, Md.												
36085	Special Wheat & Grain Mixture	Baltimore	1.19	1.00	.72	1.00	4.20	.95	.....	8.02	8.00	21.93	21.60
	John A. Englar, Linwood, Md.												
36052	No. 1 Ammoniated Bone	Linwood	2 02	2.00	.....	.....	6.40	1.42	.....	9.95	10.00	26.65	26.00
36053	No. 2 Ammoniated Bone	Linwood	1.26	1.00	....	....	11.65	.70	.....	13.47	10.00	25.26	19.00
	Eureka Chemical Co., Baltimore, Md.												
36119	Dissolved Animal Bone	Perryman	1.64	1.50	.....	.....	4.15	1.50	.....	9.02	9.00	22.90	21.30
36120	Fish & Potash (Low Grade)	Perryman	.68	.50	.27	.25	4.05	1.17	.50	7 28	8.00	15.32	14.55
	W. S. Farmer & Co., Baltimore, Md.												
36041	All Crop Mixture No. 2	Baltimore	2.03	2.00	.....	.....	6.30	1.62	.....	9.57	10.00	26.34	26.00
36066	Clyde Brand 1916	Baltimore	1.02	1.00	1.14	1.00	3.50	1.42	.....	8.27	8.00	23.33	21.60
36098	General Crop Grower (L. Gr.)	Baltimore	1.54	1.00	.66	1.00	3.85	1.55	.....	7.34	7.00	23.51	20.40
36153	Harvest Queen	Baltimore	1.79	1.50	1.06	1.00	2.00	1.80	.....	9.18	10.00	29.57	27.50
36067	Pelican Guano 1916 (L. Gr.)	Baltimore	.94	.50	1.05	1.00	2.95	1.32	.....	8.18	8.00	22.18	18.10
36189	Pelican Guano 1916 (L. Gr.)	Baltimore	.75	.50	1.10	1.00	4.05	1.22	.....	9 08	8.00	22.14	18.10
	Farmers' Exchange Co., Union Bridge, Md.												
36054	1 & 10 Fertilizer	Union Bridge	1.01	1.00	.....	.....	6.25	1.35	.....	10.14	10 00	19.78	19.00

*Total Phosphoric Acid.

No.	Name and Address of Manufacturer and Name of Fertilizer	Place of Sampling (and Sender's initials when not Sampled by the College Agent)	NITROGEN Calculated as AMMONIA.		POTASH. K_2O.		PHOSPHORIC ACID.					Comparative Value Per Ton Found.	Comparative Value Per Ton Guaranteed
							Water Soluble	Insoluble		Available			
			Found.	Guaranteed.	Found.	Guaranteed.	Found. Included in Available.	Found.	Guaranteed.	Found.	Guaranteed.		
	Farmers' Fert. & Feed Co., Westminster, Md.												
36055	High Grade Phosphate	Westminster	1.86	2.00	.....	.....	8.35	1.52	1.00	11.45	11.00	$27.37	$27 60
36056	Indian Chief	New Windsor	1.14	2.00	.....	.....	5.50	1 62	1.00	11.15	11.00	22.01	27.60
36057	No. 3 Bone Phosphate (L. Gr.)	Westminster	1.52	1.50	.....	.....	6.25	1.47	1.00	8.17	8.00	21.03	20.50
36058	XX Phosphate	New Windsor	.97	1.00	.....	.....	7.20	1.05	1.00	9.28	9.00	18.35	18.20
	Farmers' & Planters' Co., Salisbury, Md.												
36073	Acid Phosphate 17%	Salisbury	.....	.....	.....	.....	15.00	.70	.....	17.04	17.00	20.59	20.40
36074	General Crop Grower	Salisbury	.90	1.00	.....	.....	10.95	1.42	.....	13.16	11 00	22.66	20.20
36076	Special Fish Mixture	Salisbury	2 22	2.50	.....	.....	6.90	2.32	.....	9.94	9.00	28.40	28.30
36077	Wheat & Grass Special	Salisbury	1.26	1.25	.....	.....	10.95	2.92	.....	13.85	11.00	26.61	21.95
	Griffith & Boyd Co., Baltimore, Md.												
36099	Acid Phosphate 14%	Baltimore	.....	.....	.....	.....	13.65	.43	.....	16.13	14.00	19.45	16.80
36005	Animal Bone with Potash	Baltimore	2.46	2.00	.94	1.00	3.35	2.15	.....	9.02	9.00	33.60	29.80
36006	Farmers Bone Mixture	Baltimore	2.04	2.00	.....	.....	5.40	2.40	.....	9.78	9.00	26.98	24.80
36022	Farmers Gem	Baltimore	1.01	1.00	.....	.....	6.90	1.75	.....	10.05	10.00	19.83	19.00
36016	Fish & Bone Mixture (L. Gr.)	Baltimore	1.33	1.75	.....	.....	4.00	1.90	.....	7.54	7.00	19.12	20.65
36100	General Mixture (Low Grade)	Baltimore	.82	1.00	.....	.....	7.55	1.48	.....	8.98	8.00	17.11	16.60
6154	Harvest Queen Phosphate	Baltimore	.92	1.00	.92	1.00	6.85	1.02	.....	8 89	9.00	22.12	22.80
6023	H. G. Acid Phosphate 16%	Baltimore	.....	.....	.....	.....	9.70	.95	.....	15 85	16.00	19.21	19.20
6191	Peerless Mixture (Low Grade)	Baltimore	.65	.50	.....	.....	7.10	1.25	.....	8.28	8.00	14.99	13.10
6133	Pure Dissolved Animal Bone	Baltimore	2.64	2.50	.....	.....	8.75	1.60	.....	11.04	10.00	32.37	29.50
6190	Pure Fine Ground Bone Meal	Baltimore	4.54	4.00	.....	.....	.....	*18.49	*22.00	.....	.....	42.87	41.20

36142	Queen Guano	Baltimore	1.21	1.00	.....	.....	6.50	1.40	.....	8.48	9.00	$19.21	$17.80
36008	Special Royal Guano	Baltimore	1.14	1.00	.94	1.00	5.00	2.55	.....	8.48	8.00	23.88	21.60
	Hampstead Fertilizer Co., Hampstead, Md.												
36107	Acid Phosphate	Hampstead	.....	.....	.....	.....	12.95	1.50	.....	15.73	16.00	19.18	19.20
36108	Crop Grower	Hampstead	1.06	1.00	.....	.....	1.50	2.12	.....	9.64	10.00	19.84	19.00
36109	Grain & Grass Grower	Hampstead	2.12	2.00	.....	.....	3.65	3.25	.....	9.26	10.00	27.25	26.00
36110	Old Honesty (Low Grade)	Hampstead	1.08	1.00	.44	.25	1.30	1.80	.....	7.72	8.00	19.74	17.85
	J. Geo. Harr, Baltimore, Md.												
36467	Bright Star Phos. (Low Grade)	Cockeysville (E. K. S.)	1.23	1.50	.58	.50	5.00	1.63	.....	7.41	8.00	21.05	22.60
	S. M. Hess & Bro., Inc., Phila., Pa.												
36182	Potato Manure 1916	Baltimore	2.83	3.00	1.32	1.00	5.20	2 15	.....	9.28	9.00	38.41	36.80
36078	Reliable Super-Phosphate	Pocomoke City	3.07	3.00	.....	.....	5.70	2.25	.....	9.29	10.00	33.54	33.00
36028	Standard Super-Phosphate	Baltimore	1.06	1.00	.....	.....	5.85	1.70	.....	10.70	10.00	20.94	19.00
36079	Superior Super-Phosphate	Cambridge	1.84	2.00	.....	.....	6.75	1.90	.....	9.80	10.00	25.40	26.00
36017	Wheat & Grass Manure 1916	Baltimore	1.06	1.00	.96	1.00	3.50	1.62	.....	9.06	9.00	23.74	22.80
	Home Fertilizer & Chemical Co., Baltimore, Md.												
36167	Dissolved Animal Bone,	Baltimore	2.27	2.00	.....	.....	8.35	1.97	.....	12.17	12.00	31.28	28.40
	Wm. H. Hood, Mt. Airy, Md.												
36059	Special Mixture	Mt. Airy	1.01	1.00	.....	.....	8.05	1.50	.....	10.46	9.00	20.22	17.80
	Hubbard Fertilizer Co., Baltimore. Md.												
36102	Acid Phosphate 16%	Baltimore	.....	.....	.....	.....	13.60	1.13	.....	16.04	16.00	19.48	19.20
36183	Ammoniated Fertilizer	Baltimore	3.43	3.00	.....	.....	7.70	1.27	.....	9.90	10.00	36.40	33.00
36192	Columbia Phosphate (L. Gr.)	.....	1.39	1.00	.....	.....	2.16	2.70	.....	8.05	8.00	20.47	16.60
36162	Columbia Phosphate (L. Gr.)	Burdette	1.28	1.00	.....	.....	1.20	5.05	.....	6.46	8.00	18.73	16.00
36134	Excelsior Mixture	Baltimore	2.27	2.00	.....	.....	3.65	4.35	.....	7.92	10.00	27.13	26.70
36135	Grangers' Phosphate (L. Gr.)	Baltimore	.77	.50	.....	.....	1.75	1.25	.....	6.15	6.00	13.27	10.60
36024	Oriental Guano	Baltimore	1.26	1.00	.....	.....	6.40	2.65	.....	10.15	10.00	22.06	19.00
36103	Pure Bone Meal	Baltimore	4 69	4.50	.....	.....	.....	*22 58	*22.50	.....	.....	46.38	45.00
36175	Special Compound (L. Gr.)	Baltimore	.87	.75	.....	.....	3.00	1.32	.....	8.95	7.00	17.36	13.65
	M. P. Hubbard & Co,, Inc., Balto., Md.												
36036	Atlas Guano	Monrovia	1.14	1.00	.....	.....	9.40	1.30	.....	12.22	12.00	23.16	21.40
36104	Dissolved Phosphate	Baltimore	.....	.....	.....	.....	13.10	.73	.....	15.90	16.00	19 23	19.20
36155	Ever Ready Compound	Baltimore	1.13	1.00	.....	.....	7.75	.87	.....	9.49	10.00	19.65	19.00
36037	Good & Cheap Compound	Monrovia	1.08	1.00	1.02	1.00	5.35	1.55	.....	8.13	8.00	23.04	21.60
36101	Great Harvest	Baltimore	1.74	2.00	.....	.....	6.90	1.85	.....	10.38	10.00	25.38	26.00
36186	Soluble Phosphate	Baltimore	.....	.....	.....	.....	11.55	1.02	1.00	14.04	14.00	17.05	17.00

*Total Phosphoric Acid.

No.	Name and Address of Manufacturer and Name of Fertilizer	Place of Sampling (and Sender's initials when not Sampled by the College Agent)	Nitrogen Calculated as Ammonia. Found.	Nitrogen Calculated as Ammonia. Guaranteed.	Potash. K_2O. Found.	Potash. K_2O. Guaranteed.	Phosphoric Acid. Water Soluble Found. Included in Available.	Phosphoric Acid. Insoluble Found.	Phosphoric Acid. Insoluble Guaranteed.	Phosphoric Acid. Available Found.	Phosphoric Acid. Available Guaranteed.	Comparative Value Per Ton Found.	Comparative Value Per Ton Guaranteed
	Lancaster Chemical Co, Lancaster, Pa.												
36669	Dissolved Bone	Aberdeen	2.82	3.00	.....	.....	7.90	1.58	.....	10.02	11.00	$32.39	$34.20
36670	No. 6 Grain Special (Low Gr.)	Aberdeen	.67	.50	.....	.....	1.85	2.12	1.00	8.43	10.00	15.66	15.90
	Lister's Agricultural Chemical Works, Newark, N J.												
36516	Acid Phosphate 16%	Baltimore	.....	.....	.....	.....	13.75	22	.....	16.41	16.00	19.73	19.20
36731	Excelsior Guano 1916	Baltimore	3.02	3.00	.....	.....	9.00	1.50	.....	10.30	10.00	34.10	33.00
36500	Golden Sheaf 1916 (L. Gr.)	Baltimore	.72	.50	1.02	1.00	3.40	1.42	.....	8.67	8.00	21.11	18.10
36646	Grain Phosphate 1916	Baltimore	1.64	1.50	.....	.....	5.45	2.01	.....	10.01	10.00	24.29	22.50
36528	Harvest Queen Phosphate	Baltimore	1.57	1.50	1.03	1.00	3.30	1.82	.....	9.53	10.00	28.31	27.50
36550	Plant Food	Rocky Ridge	1.09	1.00	.....	.....	6.45	1.60	.....	10 16	10.00	20.46	19.00
36517	Soil Improver (Low Grade)	Baltimore	1.19	1.00	.....	.....	4.25	1.42	.....	8.64	8.00	19.27	16.60
36664	Special Crop Grower	Laurel	1.11	1.00	1.06	1.00	3.65	1.30	.....	7.96	8.00	23.14	21.60
36634	Squirrel Brand	Baltimore	1.06	1 00	.90	1.00	3.40	1.65	.....	7.88	8.00	22.04	21 60
36635	Superior Ammoniated Phos.	Baltimore	4.06	4.00	.....	.....	8.40	1.42	.....	9.80	10.00	40.75	40.00
	Martin Fertilizer Co., Phila., Pa.												
36542	Acid Phosphate 16%	Baltimore	.....	.....	.....	.....	12.45	1.27	.....	16.47	16.00	20.01	19.20
36697	Ammoniated Phosphate 2-8-0	Baltimore	1.83	2.00	.....	.....	6.75	1.70	.....	8.55	8.00	23.75	23.60
36541	Ammoniated Phosphate 2-10-0	Roslyn.	1.69	2.00	.....	.....	7.45	1.62	.....	9.41	10.00	23.77	26.00
36529	Ammoniated Phos. (L. Gr.) 1-8-0	Baltimore	.60	1.00	.....	.....	10.80	1.22	.....	12.12	8.00	19.23	16.60
36696	Ammoniated Phosphate	Baltimore	1.26	1.25	.....	.....	6.25	1.30	.....	7.58	9.00	18 44	19.55
36530	Ammoniated Phosphate 1-9-0	Baltimore	.75	1.00	.....	.....	7.40	1.27	.....	9.06	9.00	16.63	17.80
36739	Ammoniated Phosphate 1-10-0	Baltimore	1.01	1.00	.....	.....	9.25	1.46	....	10.55	10.00	20.31	19.00
36647	Ammoniated Phosphate	Ellicott City	4.08	4.00	.....	.....	8.55	2.55	.....	10.55	8.00	42.24	37.60

36540	Crop Producer	Roslyn	1.19	1.25	.....	.....	8.90	1.35	.....	10.62	10.00	$21.61	$20.75
36518	Crop Producer	Baltimore	1.08	1.25	.....	.....	6.95	2.10	.....	9.17	10.00	19.40	20.75
36509	Dissolved Organic Comp. (L. Gr.)	Baltimore	1.18	1.25	.58	.50	1.55	1.47	.....	8.41	9.00	21.84	22.05
36698	Pure Ground Bone	Baltimore	2.17	2.00	.....	.....	.....	*22.87	*22.30	.....	.....	28.91	27.38
36519	Pure Ground Bone	Baltimore	2.83	3.00	.....	.....	.....	*23.75	*22.90	.....	.....	34.06	34.74
36569	Pure Dissolved Animal Matter	Taneytown	1.86	2.00	.....	.....	10.25	3.10	.....	12.08	12.00	26.76	28.40
	Massey & Hines, Chestertown, Md.												
36598	Wheat Super Phosphate	Chestertown	1.37	1.00	.....	.....	6.70	1.85	.....	9.02	9.00	21.15	17.80
	Medford Fertilizer Works, Medford, Md.												
36570	No. 1 Bone Phosphate	Medford	1.55	1.25	.....	.....	8.40	1.05	.....	10.20	9.00	23.51	19.55
36571	No. 2 Bone Phosphate	Medford	2.03	2.00	.....	.....	11.50	2.52	.....	14.75	13.00	32.92	29.60
	F. Mehring, Keymar, Md.												
36572	Acid Phosphate	Keymar	.....	.....	.....	.....	13.75	1.60	.....	16.51	16.00	20.13	19.20
36573	Wheat & Grass Producer	Keymar	1.33	1.25	.....	.....	11.95	1.40	.....	14.35	13.50	27.09	25.35
	Miller Fertilizer Co., Baltimore, Md.												
36715	Acid Phosphate 14%	Baltimore	.....	.....	.....	.....	12.05	2.30	.50	14.66	14.00	18.05	16.90
36599	Acid Phosphate 16%	Denton	.....	.....	.....	.....	13.05	.60	.....	16.11	16.00	19.45	19.20
36716	Buyers Mixture (Low Grade)	Baltimore	.84	.75	1.02	1.00	4.65	2.50	.....	9.74	10.00	23.67	22.25
36665	Club Brand (Low Grade)	Lineboro	.67	.50	.51	.50	2.05	1.55	.50	7.77	8.00	17.18	15.80
36682	Ground Bone	Baltimore	4.03	4.00	.....	.....	.....	*18.20	*20.60	.....	.....	39.13	40.36
36666	Harvest Queen Phos. (L. Gr.)	Lineboro	1.66	1.25	.62	.75	3.20	1.25	.....	7.79	8.00	24.57	22.10
36667	Hustler Phosphate (L. Gr.)	Alesia	1.14	1.00	.52	.50	5.25	.65	.50	7.85	8.00	20.26	19.30
36668	No. 1 Hustler Phosphate	Alesia	1.21	1.00	1.03	1.00	1.90	1.57	.50	8.09	8.00	24.21	21.80
36532	No. 1 Special	Baltimore	1.93	2.00	.....	.....	5.10	1.92	.50	8.84	10.00	24.89	26.20
36648	No. 2 Special (Low Grade)	Ellicott City	1.30	1.25	.....	.....	3.65	1.10	.50	7.49	8.00	18.53	18.55
36671	Pimlico Fertilizer	Forest Hill	3.14	3.00	.....	.....	5.15	1.80	.50	7.73	8.00	31.98	30.80
36660	Potato & Vegetable	Baltimore	1.91	2.00	.96	1.00	2.65	3.22	.50	6.26	8.00	26.97	28.80
36636	Quarter Mixture (Low Grade)	Baltimore	.38	.25	.26	.25	3.05	1.27	.50	8.42	9.00	14.57	15.00
36649	Pure Dissolved Bone	Baltimore	2.08	2.00	.....	.....	9.25	.70	.....	11.59	11.00	28.75	27.20
36637	W. G. Phosphate (Low Grade)	Baltimore	.78	.50	.34	.50	2.40	1.10	.50	6.39	7.00	15.27	14.60
	Natural Guano Co., Aurora, Ill.												
36520	Pulv. Sheep Manure (L. Gr.)	Baltimore	2.88	2.73	1.88	1.50	1.50	.22	.....	1.53	1.05	31.49	27.87
	G. Ober & Sons Co., Baltimore, Md.												
36695	Diamond Phosphate (Low Gr.)	Baltimore	.....	.....	.....	.....	9.80	.87	.....	11.91	10.00	14.46	12.00
36710	Dissolved Animal Bone	Baltimore	3.17	3.00	.....	.....	5.75	3.82	.....	10.16	10.00	35.91	33.00
36510	Dissolved Bone Phosphate	Baltimore	.....	.....	.....	.....	11.50	1.57	.....	14.26	14.00	17.42	16.80

*Total Phosphoric Acid.

No.	Name and Address of Manufacturer and Name of Fertilizer	Place of Sampling (and Sender's initials when not Sampled by the College Agent)	NITROGEN Calculated as AMMONIA.		POTASH. K_2O.		PHOSPHORIC ACID.					Comparative Value Per Ton Found.	Comparative Value Per Ton Guaranteed
							Water Soluble	Insoluble		Available			
			Found.	Guaranteed.	Found.	Guaranteed.	Found. Included in Available.	Found.	Guaranteed.	Found.	Guaranteed.		
	G. Ober & Sons Co., Baltimore, Md.												
36688	Dissolved Bone Phosphate	Baltimore	.....	.....	.....	.....	12.35	.90	.....	14.74	14.00	$17.87	$16.80
36502	Electro Compound	Baltimore	1.28	1.00	.....	.....	8.75	.60	.....	10 51	10.00	21.81	19.00
36560	Farmer's Mixture	Baltimore	1.31	1.00	2 18	2.00	1.80	2.10	.....	8.60	9.00	31.23	27.80
36521	Farmer's Mixture	Baltimore	1.26	1.00	1.62	2.00	1.90	1.82	.....	8.54	9.00	27.90	27.80
36699	Golden Wheat Grower	Baltimore	2.08	2.00	1.66	2.00	1.50	1.67	.....	8.50	8.00	33.73	33.60
36459	H. G. Acid Phosphate	Cecilton (J. A. P.)	.....	.....	.....	.....	14.05	.55	.....	16 60	16.00	20.03	19.20
36534	Independ't Amm'd Super-Phos.	Baltimore	1.13	1.00	.92	1.00	3.05	1.70	.....	7.51	8.00	22.20	21.60
36522	Liberty Fish Guano	Baltimore	1.23	1.22	....	.....	11.60	.92	.....	13.23	13.00	24.86	24.14
36535	Pure Bone Meal	Baltimore	3.07	3.00	.....	.....	.....	*24.88	*22.94	.....	....	36.42	34.76
36574	Sun Beam Guano	New Windsor	2.02	2.00	.....	.....	7.95	1.17	.....	10.16	10.00	26.80	26.00
	Patapsco Guano Co., Baltimore, Md.												
36561	Ammoniated Compound	Baltimore	1.09	1.00	.....	.....	5.20	1.92	.....	9.63	10.00	19.96	19.00
36600	Battle Ax Phosphate (L. Gr.)	Centreville	.....	.....	.....	.....	10.55	.87	.....	12.82	12.00	15.55	14.40
36511	Blood, Bone & Potash (L. Gr.)	Baltimore	.70	.50	1.04	1.00	3.30	1.42	.....	7.94	8.00	20.20	18.10
36601	Coon Brand Guano	Snow Hill	1.06	1.00	.96	1.00	3.90	1.67	.....	8.66	9.00	23.28	22.80
36638	Golden Crop Fertilizer	Baltimore	2.03	2.00	.....	.....	6.30	1.47	.....	9.62	10.00	26.34	26.00
36717	Grange Mixture	Baltimore	2.10	2.00	1.02	1.00	2.20	2.60	.....	8.54	9.00	31.09	29.80
36503	H. G. Acid Phosphate 16%	Baltimore	.....	.....	.....	.....	13.05	1.02	.....	15.57	16.00	18.88	19.20
36718	1-8-0 Fertilizer (L. Gr.)	Baltimore	1.11	1.00	.....	.....	6.05	1.00	.....	8.31	8.00	18.14	16.60
36650	Money Maker	Baltimore	1.14	1.00	1.03	1.00	3.25	1.67	.....	7.61	8.00	22.93	21.60
36602	Pure Dissolved S. C. Phosphate.	Centreville	.....	.....	.....	.....	12.15	50	.....	14.77	14.00	17.82	16.80
36512	Sea Gull Guano	Baltimore	1.04	1.00	1.02	1.00	3.30	1.37	.....	8.07	8.00	22.61	21.60

	Peerless Fertilizer Co., Chestertown, Md.												
36603	Club Mixture (Low Grade)	Chestertown	1.02	.50	.....	.....	1.20	2.42	.....	9.20	8.00	$19.15	$13.10
36604	Wheat & Clover Producer (L.G.)	Chestertown	1.18	1.00	.....	.....	.60	4.82	.....	7.44	8.00	19.12	16.60
36461	Wheat & Clover Producer (L.G.)	Aireys (J. W. F.)	1.13	1.00	.....	.....	1.15	4.30	3.00	7.14	8.00	18.20	17.80
	Piedmont-Mt. Airy Guano Co., Baltimore, Md.												
36590	Levering's Excelsior Fert	Baltimore	1.11	1.00	1.80	1.00	4.35	1.35	.....	8.18	8.00	27.13	21.60
36575	Levering's Standard	Mt. Airy	2.03	2.00	.....	.....	5.25	1.15	.....	8.24	8.00	24.56	23.60
36543	Peerless Phosphate (L. Gr.)	Baltimore	1.30	1.00	.....	.....	3.80	1.80	2.00	7.51	8.00	18.83	17.40
36689	Piedmont Acid Phosphate 14%	Baltimore	.....	.....	.....	.....	12.70	.92	.....	15.63	14.00	18.94	16.80
36504	Piedmont Acid Phosphate 16%	Baltimore	.....	.....	.....	.....	14.85	.02	.....	17.72	16.00	21.26	19.20
36722	Piedmont Acid Phos. 12% (L.G.)	Baltimore	.....	.....	.....	.....	10.40	1.85	.....	12.45	12.00	15.31	14.40
36576	Piedmont Economy (L. Gr.)	Mt. Airy	.44	.25	.....	.....	6.40	1.02	.....	10.30	10.00	15.85	13.75
36661	Piedmont Farmer's Pride	Baltimore	1.96	2.00	.....	.....	9.00	1.25	.....	12.02	12.00	28.64	28.40
36591	Piedmont Golden Eagle Phos.	Baltimore	1.96	2.00	.92	1.00	5.60	1.42	.....	9.05	9.00	29.75	29.80
36523	Piedmont Raw Bone Mixture	Baltimore	1.42	1.25	1.02	1.00	2.70	3.57	.....	8.50	8.00	26.67	23.35
36549	Piedmont Raw & Dis. Bone	Baltimore	3.12	3.00	.....	.....	.....	*23.16	*23.00	.....	.....	35.74	34.80
36536	Piedmont Special Crop Grower	Baltimore	1.14	1.00	....	.....	5.25	1.70	.....	9.54	10.00	20.11	19.00
6683	Piedmont Utility Fertilizer	Baltimore	2.15	2.00	.....	.....	6.90	1.67	.....	10.29	10.00	28.07	26.00
36577	Standard Dissolved Bone Phos.	Mt. Airy	1.25	1.00	.....	.....	5.35	1.90	2.00	9.51	10.00	20.92	19.80
	Pollock Fertilizer Co., Baltimore, Md.												
36562	Ammoniated Fertilizer "A"	Baltimore	1.04	1.00	.....	.....	5.50	1.70	.....	10.14	10.00	20.13	19.00
36563	Ammoniated Fertilizer "AA"	Baltimore	1.96	2.00	.....	.....	6.70	1.82	.....	9.86	10.00	26.28	26.00
36524	Corn & Oats Spec. 1916 (L. Gr.)	Baltimore	.68	.50	1.03	1.00	3.35	1.47	.....	8.59	8.00	20.81	18.10
36564	Corn, Wheat, & Tomato Guano	Baltimore	1.06	1.00	1.03	1.00	2.45	1.67	.....	7.62	8.00	22.38	21.60
36565	Grain Special	Baltimore	2.15	2.00	.....	.....	5.05	1.62	.....	7.66	8.00	24.89	23.60
36700	H. G. Super Phosphate	Baltimore	.....	.....	.....	.....	14.55	.32	.....	16.83	16.00	20.26	19.20
36707	Our Brand Guano (Low Grade)	Friendsville	1.54	1.00	.....	.....	7.10	1.30	.....	10.83	8.00	24.30	16.60
	Ramsburg Fertilizer Co., Frederick, Md.												
36552	Ammoniated Bone Phosphate	Walkersville	1.01	1.00	.....	.....	9.65	1.72	.....	12.91	11.00	23.25	20.20
36553	Excelsior Plant Food	Monrovia	2.03	2.00	.....	.....	9.20	3.12	.....	11.86	10.00	29.69	26.00
36554	Queen (Low Grade)	Monrovia	.63	.50	.....	.....	7.15	1.32	.....	9.23	10.00	16.02	15.50
36555	Super Phosphate	Walkersville	.....	.....	.....	.....	12.10	1.92	.....	16.33	16.00	19.98	19.20
36556	Williams Wheat & Grass Fert.	Monrovia	1.16	1.00	.....	.....	8.10	1.32	.....	11.43	10.00	22.37	19.00
	Rasin-Monumental Co., Baltimore, Md.												
36662	Rasin's Acid Phosphate 14%	Baltimore	.....	.....	.....	.....	11.75	.75	.....	15.02	14.00	18.17	16.80
36525	Rasin's Acid Phosphate 16%	Baltimore	.....	.....	.....	.....	13.70	1.77	.....	16.80	16.00	20.51	19.20

*Total Phosphoric Acid.

No.	Name and Address of Manufacturer and Name of Fertilizer	Place of Sampling (and Sender's initials when not Sampled by the College Agent)	NITROGEN Calculated as AMMONIA.		POTASH. K_2O.		PHOSPHORIC ACID.					Comparative Value Per Ton Found.	Comparative Value Per Ton Guaranteed
							Water Soluble	Insoluble		Available			
			Found.	Guaranteed.	Found.	Guaranteed.	Found. Included in Available.	Found.	Guaranteed.	Found.	Guaranteed.		
	Rasin-Monumental Co., Balto., Md.												
36711	Rasin's Dissolved Bone	Baltimore	2.13	2.00	.....	.....	6.75	3.77	1.00	10.38	10.00	$28.88	$26.40
36579	Rasin's Royal Amm'd Super Phos. (L. G.)	Taneytown	.65	.50	.....	.....	3.35	2.05	1.00	8.58	10.00	15.67	15.90
36690	Raisin's Royal Manure (L. Gr.)	Baltimore	.73	.50	1.04	1.00	4.20	2.65	1.00	8.02	8.00	20.99	18.50
36701	Raisin's Sea Wall Special (L.G.)	Baltimore	.....	.....	.....	.....	7.30	1.57	.....	11.36	10.00	13.94	12.00
36651	Rsn. Special Crop Preparation	Ellicott City	2 18	2.00	.....	.....	6.75	2.30	1.00	10.02	10.00	28.20	26.40
36580	Rsn. Special Fish Mixture	Taneytown	1.11	1.00	.....	.....	4.60	3 17	.....	8.86	10.00	19.67	19.00
36652	Rsn. Spec. Fish & Bone Guano	Ellicott City	2.22	2.00	.....	.....	7.00	2.55	1 00	10.89	11.00	29.63	27.60
36653	Rsn. Wht. Corn & Oats Mix. (L.G.)	Baltimore	.63	.50	1.80	2.00	4.55	1.42	.....	7.63	8.00	23.14	23.10
36578	William Penn Crop Grower	Silver Spring	1.06	1.00	1.22	1.00	5.00	1.57	.....	8.02	8.00	23.77	21.60
	Reindollar Co., Taneytown, Md.												
36581	Acid Phosphate 16%	Taneytown	.....	.....	.....	.....	14.75	.25	.....	17.20	16.00	20.69	19.20
36582	Ammoniated Phosphate	Taneytown	2.17	2.00	.....	.....	11.70	1.77	.....	13.99	12.00	32.69	28.40
	W. E. Robinson & Co., Bel Air, Md.												
36672	Veg. & Grain Fertilizer (L. G.)	Fallston	2.17	2.00	.54	.25	5.70	.75	.....	7.68	8.00	27.41	24.85
36673	Veg. & Grain Fertilizer (L. G.)	Fallston	1.91	2.00	.88	.25	6.25	1.12	.....	8.20	8.00	25.56	24.85
	F. S. Royster Guano Co., Baltimore, Md.												
36453	Acid Phosphate 14%	Denton (M. B.)	.....	.....	.....	.....	9.90	1.62	.....	14.10	14.00	17.24	16.80
36639	Acid Phosphate 12% (L. Gr.)	Baltimore	.....	.....	.....	.....	9.65	2.07	.....	12.74	12.00	15.70	14.40
36606	Cuckoo Crop Grower	Centerville	1.33	1.00	1.20	1.00	5.55	1.30	.....	8.06	8.00	25.50	21.60
36691	Dreadnought Fertilizer	Baltimore	2.13	2.00	1.36	2.00	5.70	1.42	.....	8.62	8.00	32.62	33.60
36452	Fine Ground Bone Meal	Denton (M. B.)	3.28	3.00	.....	.....	.....	*24.26	*22.90	.....	.....	37.52	34.74

36738	Flamingo Amm'd Super-Phos...	Lineboro.....	2.80	2.50	.....	.....	10.40	1.92	.....	12.39	12.00	$35.24	$31.90
36505	Grain & Grass Spec. (L. Gr.)..	Baltimore.....	1 11	1.00	.....	.....	6.05	1.40	.....	8.32	8.00	18.31	16.60
46544	H. G. Acid Phosphate.....	Baltimore	.....	.....	.....	.....	13.80	2.15	.....	16.18	16.00	19.85	19.20
36506	Penguin Amm'd Super-Phos ..	Baltimore.....	2.25	2.00	.....	.....	7.95	1.42	.....	10.10	10.00	23.44	26.00
36692	Penguin Amm'd Super-Phos....	Baltimore.....	2.47	2.00	.....	.....	8.15	1.32	.....	9.90	10.00	29.70	26.00
36712	Potatomato Fish Mixture.....	Baltimore.....	2.20	2.00	1.12	1.00	4.70	1.27	.....	8.25	8.00	31.41	28.60
36732	Pure Raw Bone Meal.....	Baltimore.....	4.78	4.50	.....	.....	.....	*23.67	*21.50	.....	.....	47.66	44.40
36537	Royal Blue Amm'd Super-Phos..	Baltimore.....	1.08	1.00	.....	.....	6.15	2.10	.....	9.58	10.00	19.90	19.00
36684	Special Wheat Grower	Baltimore.....	1.13	1.00	.....	.....	9.35	1.42	.....	12.16	12.00	23.07	21.40
36674	Wheat, Oats & Barley Fert.....	Cardiff.....	1.09	1.00	2.04	2.00	4.70	1.60	... .	7.60	8.00	27.59	26.60
	Scott Fertilizer Co., Elkton, Md.												
36607	Ammoniated Base.....	Elkton.....	2.01	2.00	.....	.....	7.45	3.35	.....	11.71	12.00	29.46	28.40
36608	Crop Grower.....	Elkton.....	1.83	2.00	.....	.....	6.30	2.85	.....	10.09	8.00	26.06	23.60
36609	Special Grain Grower.....	Elkton.....	1.25	1.00	.....	.....	7.40	2.90	.....	11.83	10.00	24.11	19.00
36610	Standard 1917	Elkton.....	1.43	1.00	.94	1.00	5.05	2.55	.....	9.82	8.00	27.51	21.60
36611	Sure Growth Super Phosphate..	Elkton.....	2.03	2.00	1.02	1.00	4.80	2.47	.....	9.39	8.00	31.57	28.60
36612	Tip Top Soluble Phosphate.....	Elkton.....	.....	.....	.....	.....	13.85	.75	.....	16 52	16.00	19.97	19.20
	Standard Guano Co., Baltimore, Md.												
36654	Standard 1-9-0	Walkersville.....	1.14	1.00	.....	.....	5.90	1.80	.50	9.40	9.00	19.98	18.00
	W. H. Streett & Co., Fallston, Md.												
36675	Ammoniated Dissolved Bone....	Fallston.....	1.67	1 50	1.04	1.00	3.40	1.97	.50	8.04	8.00	27.33	25.30
36676	Animal Compound.....	Fallston.....	2.68	2.50	.....	.....	4.70	2.50	.50	8.80	10.00	30.32	29.70
36677	Standard (Low Grade).....	Fallston.....	1.08	1.00	.. ...	.....	4.40	1.40	.50	8.02	8.00	17.74	16.80
	Superior Guano Co., Baltimore, Md.												
36725	M. B. W. Acid Phosphate 16%..	Baltimore.....	.....	.....	.....	.....	13.80	.47	.....	14.69	16.00	17.72	19.20
36641	M. B. W. Amm'd Dis. Bone....	Baltimore.....	1.71	2.00	.....	.....	7.60	2.47	.....	11.16	10 00	26.35	26.00
36713	M. B. W. Amm'd Phos. & Pot..	Baltimore.....	1.08	1.00	2.30	2.00	.40	2.95	.....	6.88	8.00	28.50	26.60
36526	M. B. W. Bone Meal.....	Baltimore.....	2.66	3.00	.....	.....	.....	*25.14	.....	.....	11.00	33.70	34.20
36726	M. B. W. Crop Producer.....	Baltimore.....	1.06	1.00	.96	1.00	4 10	2.17	.....	7 74	8.00	22.38	21.60
36642	M. B. W. Dissolved Bone.....	Baltimore.....	1.27	1.25	.....	.....	8.55	1.70	.....	10.70	10 00	22.41	20.75
36736	M. B. W. Half & Half (L. Gr.)	Baltimore.....	.....	.....	1 36	1.25	.75	2.70	.....	6.70	8.00	15.38	15.85
36538	McKenney's Spec. Wheat Mix..	Baltimore.....	2.10	2.00	.....	.....	8.65	3.90	.....	11.77	11 00	30.38	27.20
36539	M. B. W Special Bone Mixture.	Baltimore.....	1.08	1.00	.....	.....	3.90	3.52	.....	10.63	10 00	21.73	19.00
36714	M. B. W. Special Mixture (L.G.)	Baltimore.....	.....	.....	1.27	1.25	.25	3.52	.....	5.88	10.00	14.01	18.25
36614	M. B. W. Special Mixture (L.G.)	Centreville.....	.....	.....	.....	.....	.75	1.25	.....	9.32	8.00	11.43	9 60
36546	M. B. W. Wheat & Grass (L.G.)	Baltimore.....	.....	.....	.92	1.25	.40	3.85	.....	4.42	8.00	10 67	15.85

*Total Phosphoric Acid.

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							Water Soluble	Insoluble		Available			
			Found.	Guaranteed.	Found.	Guaranteed.	Found. Included in Available.	Found.	Guaranteed.	Found.	Guaranteed.		
	Superior Guano Co., Baltimore, Md.												
36735	M. B. W. Wheat & Grass (L. G.)	Baltimore	.....	.....	1.08	1.25	.75	4.72	.....	3.74	8.00	$10.83	$15.85
36613	Price Mixture (Low Grade)	Centreville	.61	.50	.....	.....	1.50	2.67	.....	8.97	10.00	16.10	15.50
	Swift & Co., Inc., Baltimore, Md.												
36566	Acid Phosphate 16%	Baltimore	.....	.....	.....	.....	12.05	.70	.....	16.29	16.00	19.69	19.20
36592	Ammoniated Phosphate	Baltimore	.90	1.00	.....	.....	7.55	1.10	.....	9.91	10.00	18.63	19.00
36567	Bone Meal & Phos. 1-20-0	Baltimore	1.18	1.00	.....	.....	4.50	11.37	7.00	9.24	13.00	23.90	25.40
36593	Clay Soil Special	Baltimore	2 95	2.00	.....	.....	7.95	1.82	.....	10.37	12.00	33.82	28.40
36594	Garden City Phosphate	Baltimore	.....	.....	.....	.....	11.75	1.00	.....	14.70	14.00	17.84	16.80
36595	Grain Fertilizer (Low Grade)	Baltimore	1.13	1.00	.....	.....	5.00	1.27	.....	7.45	8.00	17.36	16.60
36596	Ground Beef Bone Fertilizer	Baltimore	2.56	2.50	.....	.....	.....	*26.62	*27 00	.....	.....	33.89	33.70
36678	Raw Bone Meal	Perryman	4.81	4.50	.....	.....	.....	*22.24	*22.00	.....	.....	47.01	44.70
36615	Red Steer 2-8-2	Beaverdam	2.20	2.00	1.80	2.00	6.00	.87	.....	8.88	8.00	35.41	33.60
36558	Reliable Grain Fertilizer	Rocky Ridge	1.02	1.00	1.20	1.00	6.60	.90	.....	9.25	8.00	24.60	21.60
36723	Special Corn Grower	Baltimore	2.18	2.00	.....	.....	7.05	2.10	.....	9.52	10.00	27.52	26.00
36616	Special Formula "A" 4-8-0	Pocomoke City	4.01	4.00	.....	.....	7 00	.82	.....	8.01	8.00	38.01	37.60
36693	Wheat & Rye Grower	Baltimore	1.86	2.00	.....	.....	5.05	1.50	.....	7.62	8.00	22.76	23.60
	Tanner Hide & Tallow Co., Hagerstown, Md.												
36709	Bone Phosphate	Hagerstown	2.88	2.00	.....	.....	6.55	5.17	4.00	10.05	8.00	34.29	25.20
	H. S. Taveau & Co., Baltimore, Md.												
36694	Wheat & Grass Comp, (L. Gr.)	Baltimore	.77	.50	1.18	1.00	3.30	1.55	.....	7.38	8.00	20.77	18.10

	Thomas & Co., Frederick, Md.												
36559	Harvest Queen Phosphate	Walkersville	.92	1.25	.....	.....	5.95	2.05	.....	8.63	10.00	$17.62	$20.75
36583	Plant Food	Middleburg	.85	1.00	.....	.....	7.95	1.30	.....	9.03	9.00	17.31	17.80
	I. P. Thomas & Son Co., Phila., Pa.												
36644	Pure Ground Bone	Annapolis	3.03	3.00	.....	.....	.....	*24.83	*23.00	.....	.....	36.11	34.80
	W. B. Tilghman Co., Salisbury, Md.												
36617	Acid Phosphate	Berlin	.....	.....	.....	.....	15.80	.50	....	18.15	16.00	21.88	19.20
36618	Bone Tankage Mixture	Salisbury	1.81	2.00	.....	.....	7.50	3.17	.....	10.43	11.00	26.46	27.20
36619	Fish Bone Phosphate Mixture	Salisbury	1.06	1.00	.....	.....	8.80	1.65	.....	11.07	11.00	21.36	20.20
36620	Mixture "B"	Salisbury	3.60	4.00	.....	....	8.15	1.85	.....	9.72	9.00	37.60	38.80
36621	Special Mixture (Low Grade)	Berlin.	.67	.33	.....	.....	11.10	.80	.....	12.96	12.00	20.56	16.71
36623	Special Potato Fertilizer	Salisbury	2.73	3.00	.....	.....	7.20	1.60	.....	9.67	9.00	31.35	31.80
36622	Standard Fish Mixture	Berlin	1.82	2.00	.....	.....	7.10	1.92	.....	9.91	10.00	25.40	26.00
	J. E. Tygert Co., Phila., Pa.												
36597	Dis. Phos. & Potash (L. Gr.)	Baltimore	.....	.....	1.12	1.00	3.00	1.90	.....	10.45	10.00	18.52	17.00
36645	Neptune Fish Comp. (L. Gr.)	Baltimore	1.21	1.00	.92	1.00	3.30	1.70	.....	7.11	7.00	22.28	20.40
	J. Tyson & Son, Frederick, Md.												
36584	Ammoniated Super-Phos	Adamstown	.92	1.00	.....	.....	2.45	1.70	.....	9.94	10.00	19.05	19.00
36655	Half & Half Super-Phos. (L. G.)	Frederick	1.01	1.00	.....	.....	2.05	1.35	....	8.02	8.00	17.23	16.60
36585	Special Mixture (Low Grade)	Barnesville	.63	.50	.....	.....	1.15	1.42	.....	8.02	8.00	14.60	13.10
36656	XX High Grade Fertilizer	Frederick	2.13	2.00	.....	.....	1.80	1.27	.....	9.92	9.00	27.32	24.80
	E. S. Valliant & Son, Church Hill, Md.												
36741	Acid Phosphate 14%	Baltimore	.....	.....	.....	.....	10.83	.56	.....	13.86	14.00	16.74	16.80
36703	Acid Phosphate 16%	Baltimore	.....	.....	.....	.....	14.20	.35	.....	16.87	16.00	20.31	19.20
36507	Ammoniated Potash Mix. (L.G.)	Baltimore	.36	.25	.34	.25	5.35	1.90	.....	9.43	10.00	16.30	15.00
36663	Diamond Brand	Baltimore	1.13	1.00	.....	.....	4.15	2.07	.....	8.24	10.00	18.63	19.00
36728	Favorite Brand	Baltimore	2.08	2.00	.....	.....	5.30	2.42	.....	9.06	10.00	26.40	26.00
36704	General Crop Mixture	Baltimore	1.30	1.00	1.14	1.00	2.10	1.02	.....	7.67	8.00	24.41	21.60
36508	Grain Grower (Low Grade)	Baltimore	.67	.50	.35	.25	5.40	1.95	.....	8.92	10.00	17.92	16.75
36469	Grain Grower (Low Grade)	Church Hill (W. H. W.)	.72	.50	.34	.25	6.80	1.65	.....	9.70	10.00	19.04	16.75
36513	Peninsula Mixture (Low Grade)	Baltimore	.38	.25	.....	.....	4.35	1.07	.....	7.74	9.00	12.38	12.55
36514	Special Mixture (Low Grade)	Baltimore	.43	.25	.....	.....	6.85	.95	.....	9.89	10.00	15.26	13.75
36724	Standard Fertilizer	Baltimore	1.26	1.25	.....	.....	8.75	1.70	.....	11.26	10.00	23.01	20.75
36515	Wheat & Grass (Low Grade)	Baltimore	.67	.50	.....	.....	6.75	1.70	.....	9.81	10.00	17.14	15.50
36468	Wheat & Grass (Low Grade)	Church Hill (W. H. W.)	.77	.50	.....	.....	7.00	.90	.....	10.34	10.00	18.16	15.50

*Total Phosphoric Acid.

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							Water Soluble	Insoluble		Available			
			Found.	Guaranteed.	Found.	Guaranteed.	Found. Included in Available.	Found.	Guaranteed.	Found.	Guaranteed.		
	Virginia-Carolina Chemical Co., Richmond, Va.												
36586	Acid Phosphate	Rockville	.....	.....	.....	.....	11.20	1.02	.....	14.44	14.00	$17.53	$16.80
36685	Fish, Bone & Potash	Baltimore	2.27	2.00	1.22	1.00	5.10	1.82	.....	8.37	8.50	32.76	29.20
36686	Fish & Bone Mixture	Baltimore	2.06	2 00	.....	.....	6.90	2.42	1.00	11.61	11.00	29.32	27.60
36705	Special Compound	Baltimore	1.31	1.00	1.20	1.00	6.10	1.87	1.00	8.55	8.00	26.18	22.00
36721	Special Crop Formula	Laurel	2.06	2.00	.....	.....	6.90	.85	1.00	8.83	10.00	25.36	26.40
36568	Special Fish Preparation	Baltimore	1.19	1.00	.....	.....	3.95	3.12	1.00	8.87	10.00	20.22	19.40
	S. L. Webster & Son, Cambridge, Md.												
36624	Acid Phosphate 16%	Cambridge	.....	.....	.....	.....	15.00	.35	.....	17.58	16.00	21.17	19.20
36625	Our Special Make	Cambridge	87	1.00	.....	.....	12.10	1.20	.....	13.86	10.00	23.20	19.00
	Westminster Fertilizer Co., Westminster, Md.												
36587	Governor	Westminster	1.81	1.50	.....	.....	7.15	1.82	.....	10.10	11.00	25 52	23.70
36588	Leader	Westminster	1.21	1.00	.....	.....	6.55	2.35	.....	8.73	10.00	19.89	19.00
36589	Super-A	Westminster	.84	1.00	.....	.....	6.25	1.35	.....	8.61	9.00	16.75	17.80
	H. W. Whistler, Bel Air, Md.												
36680	Dissolved Bone	Bel Air	2.18	2.00	.....	.....	9.85	1.95	.....	11.87	12.00	30.28	28.40
	F. M. Wilson & Co., Pocomoke City, Md.												
36626	Favorite Truck	Pocomoke City	4.56	4.00	.....	.....	10.30	1.85	.....	12.10	10.00	47.18	40.00
36627	Peninsula Amm'd Super Phos	Pocomoke City	1.76	1.50	.....	.....	12.90	.92	.....	15.82	12.00	31.07	24.90

	Robert A. Wooldridge Co., Balto., Md.												
36719	Champion Stag Phosphate, 1916.	Baltimore	1.16	1.00	1.06	1.00	5.30	1.25	.....	9.06	9.00	$24.79	$22.80
36729	Common Sense Super Phosphate	Baltimore	3.21	4.00	.....	.....	8.25	1.45	.....	10.25	10.00	35.35	40.00
36706	Dissolved Soluble Phos. (L. Gr.).	Baltimore	.....	.....	.....	.....	6.35	.80	.....	10.07	10.00	12.24	12.00
37727	Dissolved S. C. Phosphate (L. G.)	Baltimore	.....	.....	.....	.....	10.45	.67	.....	12.02	12.00	14.55	14.40
36527	Florida Acid Phosphate	Baltimore	.....	.....	.....	.....	11.10	1.37	.....	14.33	14.00	17.47	16.80
36547	General Crop Grower (Low Gr.)	Baltimore	1.13	1.00	.....	.....	4.30	1.45	.....	8.88	8.00	19.15	16.60
36548	H. G. Acid Phosphate	Baltimore	.....	.....	.....	.....	12.55	1.60	.....	15.85	16.00	19.34	19.20
36730	H. G. Dissolved Animal Bone	Baltimore	2.52	2.50	.....	.....	9.70	4.12	.....	12.52	12.00	34.31	31.90
36687	No. 1 Phosphate & Potash (L. G.)	Baltimore	.....	.....	1.01	1.00	3.55	1.30	.....	9.89	10.00	17.18	17.00
36681	Old Fidelity	Perryman	2.12	2.00	.....	.....	6.00	2.42	.....	9.93	10.00	27.73	26.00
36628	Special Wheat & Grass Grower.	Salisbury	1.76	1.50	.....	.....	6.80	1.32	.....	10.09	10.00	24.96	22.50
36720	Success Fertilizer	Baltimore	1.38	1.00	.....	.....	7.55	1.23	.....	10.02	10.00	22.17	19.00
36629	Trucker's Wonder	Salisbury	2.90	3.00	.....	.....	7.20	1.85	.....	9.70	9.00	32.68	31.80
	Worcester Fertilizer Co., Snow Hill, Md.												
36630	Acid Phosphate 16%	Snow Hill	.....	.....	.....	.....	15.45	.35	.....	17.57	16.00	21.15	19.20
36631	General Crop Grower	Snow Hill	2.51	2.00	.....	.....	8.85	1.65	.....	11.23	10.00	31.71	26.00
36632	Special Fish Mixture	Snow Hill	2.88	3.00	.....	.....	8.10	1.80	.....	10.41	10.00	33.37	33.00
36633	Wheat & Grass Mixture 1-11	Snow Hill	.92	1.00	.....	.....	10.40	.87	.....	13.46	11.00	22.94	20.20
	York Chemical Works, York, Pa.												
36657	Dempwolf's Black Cross (L. G.)	Woodsboro	1.08	1.00	.....	.....	5.40	1.55	.....	7.69	8.00	17.41	16.60
36658	Dempwolf's Dissolved Phos.	Woodsboro	.....	.....	.....	.....	13.40	1.82	.....	15.35	14.00	18.78	16.80
36659	Dempwolf's Harvest Queen	Woodsboro	1.02	1.00	1.06	1.00	6.10	1.55	.....	8.02	8.00	22.68	21.60

FERTILIZER LAW OF MARYLAND.

Section 1. That the term "Fertilizer" as used in that Act shall be held to mean any commercial fertilizer or any article, substance or mixture sold, offered or exposed for sale for manurial purposes within this State, of which the selling price shall be more than Eight Dollars ($8.00) per ton of two thousand pounds, but shall not include ground gypsum, lime or dung of domestic animals when sold as such, and not mixed with other fertilizers. The term "State Chemist" shall mean the Professor in Charge of the Chemical Department of the Maryland Agricultural College, who shall be ex-officio State Chemist. The term Brand shall mean the full name, brand, and trade mark, under which the fertilizer is sold, together with the statement of the percentage of the valuable ingredients contained therein.

Sec. 2. Before any fertilizer is sold, offered, or exposed for sale within the State the following conditions must be complied with: (A), The importer, manufacturer, manipulator, dealer or agent shall register with the State Chemist, the brands of fertilizers contemplated to be sold, and pay an inspection fee of ten dollars ($10.00) per brand, and at the close of the calendar year shall file a statement with the State Chemist, made under oath in due form of law, as to the total number of tons of fertilizers sold in this State, and shall pay thereon ten cents per ton not including in said statement the goods sold in bulk to manufacturers, manipulators or mixers; deducting the total amount of the inspection fees paid in the registration of the brands of fertilizers, as already provided for in this section, and no other license shall be required to sell fertilizers in this State, provided, when any manufacturer, dealer, or importer has paid the required inspection fees, no other person selling the same goods under his name and brand shall be required to pay such fee. (B), Every bag, barrel, or package of fertilizer, and every parcel or lot, if sold in bulk, must bear in legible print, or be accompanied by a clear and true statement showing the net pounds in the package or lot, the name, brand, or trade-mark, under which the fertilizer is sold, the name and address of the manufacturer, importer or manipulator, the place of manufacture or manipulation, and a chemical analysis stating the percentage of the minimum, and only the minimum contained therein, of nitrogen, in an available form, or its equivalent in ammonia, of potash soluble in distilled water, and of available phosphoric acid; in lieu of the available phosphoric acid the soluble phosphoric acid and the reverted phosphoric acid may be given; it shall be lawful to state the maximum percentage of chlorine and the minimum of insoluble phosphoric acid; in case of unacidulated bone, tankage, fish or other animal or vegetable matter used as fertilizer, it shall be lawful to guarantee the phosphoric acid as total phosphoric acid, but it shall be unlawful to include the same constituents more than once in the guaranteed analysis of any fertilizer, either in the same form of combination or in a different form of combination.

Sec. 3. Each failure to comply with any of the conditions of Section 2 of this Act, shall be punishable by a fine of $100.00 for the first offense, and $200.00 for each subsequent offense, provided that the penalty for failure to file the required statement, and pay the fee provided for within this Act, within sixty days after the close of the calendar year, shall be Two Hundred Dollars for the first week. after the

sixty days limit, and Three Hundred Dollars for each subsequent week, provided further, that no manufacturer, dealer or importer shall be permitted to register any brand or brands, for the next ensuing year, until all the provisions in Section 2 of this Act have been complied with, including the statement of the total tonnage sold in this State for the previous year, and paid the ten cents per ton on this said tonnage.

Sec. 4. It shall be unlawful to sell or offer for sale, unless the same be plainly marked "low grade," any acid-phosphate or dissolved Rock containing less than fourteen (14) per cent of available phosphoric acid, (b) any phosphate and potash with less than two per cent of potash and with less than twelve per cent of potash and available phosphoric acid combined, (c) any ammoniated fertilizer with less than one per cent of ammonia, or its equivalent in nitrogen, or less than one per cent of potash, if potash is claimed to be present, and less than ten per cent of ammonia, potash and phosphoric acid combined; any failure to comply with any of the provisions of this section shall be punishable by a fine of twenty-five dollars ($25.00) for the first offense and one hundred dollars ($100.00) for each subsequent offense.

Sec. 5. It shall be the duty of the Maryland Agricultural College to analyze without cost or charge all samples of fertilizers sent to it for the purpose of being analyzed by any person or persons purchasing or procuring the same in this State for his or their use or uses, provided such persons are not interested in the analysis desired other than as a consumer, of which certificate shall be made and shall accompany such sample or samples, and further, such samples are taken and sent as described by this Act and free of cost of transportation to said College; and it shall be the duty of the Maryland Agricultural College to procure samples, as far as practicable, in every year of all fertilizers sold and used in this State, for the purpose of analyzing the same, and any duly authorized agent or representative of the said College shall have the right to take samples as provided by this Act from any lot or parcel of fertilizer in transit or in possession or in keeping of any manufacturer, manipulator, dealer, agent or consumer for use in this State, and it shall be the duty of the Maryland Agricultural College, to send in the result of the analysis of every sample of fertilizer to the person from whom such sample was taken, or received, and also to publish from time to time, the results of the analysis made by the said College of the samples sent to, or procured by it for such purpose, and it shall be the duty of the Maryland Agricultural College when reporting or publishing the result of any analysis made to state the approximate commercial value in dollars and cents of the fertilizer so analyzed per ton of two thousand pounds, such value to be based upon the analysis made at the College and upon a standard of valuation to be escertained, fixed and published by said College annually after conference with the proper officials of adjacent States.

Sec. 6. All samples of fertilizers for analysis, at the Maryland Agricultural College, shall be taken from unbroken packages or bags that have not been damaged or injured in transit or by exposure, and when in the possession of the purchaser or purchasers within thirty (30) days after coming into their possession, it shall be lawful for any purchaser or purchasers of any fertilizer or fertilizers, provided that he be not a manufacturer, manipulator or agent of either, to have a sample taken from any such unbroken packages or bags in the presence of two

disinterested persons and forward to the Maryland Agricultural College for analysis, accompanied by a statement on the department forms, certifying that the sample has been correctly drawn according to the provisions of this Act, that it shall not be lawful for said Agricultural College, or its chemists, to previously demand of any purchaser or purchasers so sending said sample or samples for analysis to give any advice, information or statement, to the said College or its Chemists as to any analysis, found on the original unbroken packages, or bags from which said sample or samples were taken, or the name or names of any individual, representative, agent or corporation or firm from which said fertilizer or fertilizers were purchased; and it shall be the duty of the Agricultural College to have its proper and authorized chemist to at once make a full and complete analysis of the sample or samples so sent, and within thirty (30) days thereafter return to such person or persons for whom the sample or samples were received a full and complete analysis, and it shall be unlawful for any individual or any representative or any agent of any corporation or firm, or any corporation or firm itself to have either directly or indirectly, communication with the Agricultural College, or its Chemists, agents or representatives, or the sender of any sample with regard to the analysis of any fertilizer or fertilizers sent to the Agricultural College by the purchaser or purchasers thereof for analysis, under the provisions of this section, nor shall the Agricultural College, nor its chemists nor its agent or agents, or the sender of any sample, furnish any information or communicate with any manufacturer of fertilizer about any such sample submitted for analysis until after a report of said analysis shall have been duly furnished to the applicant for such analysis under this section; provided that all samples sent to the Maryland Agricultural College by any purchaser or purchasers, shall be drawn from at least five per cent of the total number of bags purchased, the samples to be thoroughly mixed in a clean, dry place, and a suitable sample shall be taken from said mixture and placed in a suitable vessel or vessels, carefully closed and sealed with an identifying label, and the same then taken or sent by safe carriage to the said College for analysis; every sample sent for analysis by the State Chemist as provided for in this section, shall be fully described on forms to be furnished by said chemist free of charge, said description giving a full and complete statement of the time and place of sampling, of all marks on the bags or packages thereof and all of the facts, relating to the same, said description and statement shall be signed by the owner of the fertilizer and the person drawing the sample; provided further that the purchaser or purchasers sending such sample or samples of fertilizer, shall withhold said description or descriptions of said sample or samples until he has received the report of the said State Chemist of the analysis of the same, any person or persons receiving an analysis from the State Chemist under this Act shall immediately thereafter forward to him the statement required by this Act, to be made at the time of taking the sample or samples; any person or persons, violating the provisions of this Section, shall be punished by a fine of one hundred dollars ($100.00).

Sec. 7. Any manufacturer, agent or representative who shall be convicted of making false and fraudulent representations as to the quality and constituent elements of any fertilizers by the printed analysis or false or misleading statement upon any such bag or package shall be fined one hundred dollars ($100.00) for the first offense, and

two hundred dollars ($200.00) for every subsequent offense, thereafter; and the report of the analysis of any such sample of fertilizer sent to the Agricultural College for examination under this Act shall be prima-facie evidence as to the quality of the lot of fertilizer, from which said sample was taken.

Sec. 8. All inspection fees received by the State Chemist under Section 2 of this Act, shall be paid into the Treasury of the Maryland Agricultural College, as directed by the trustees thereof to pay for the cost of the analysis, inspections, sampling and other expenses required by this Act.

Sec. 9. Any purchaser of fertilizer who shall be injured or defrauded by the contents of the bag, barrel, or other package, or fertilizer in bulk, not conforming in quantity or quality to the marks, labels, or statements on or accompanying the same, or who shall purchase fertilizer branded, "pure bone" when the same is adulterated with oyster shell or other foreign matter, even if the analysis corresponds to the guaranteed analysis on the package, may receive from the seller or sellers thereof in an action of debt, an amount equal to the purchase money and cost of suit, and in case the purchase is made of an agent, or any person or persons, residing out of the limits of the State of Maryland, or company, or corporation whose principal place of business is out of the State, the purchaser may at his or her option proceed by attachment, as now provided for by the law in case of non-resident, and absconding debtors, against any property, right or credits, of any person or persons, company or corporation furnishing said fertilizer, when such property rights or credits can be found within the limits of the State of Maryland; provided, the purchaser of any fertilizer, shall not be deemed to be defrauded by a shortage in one or two of the constituents of said fertilizers, not to exceed one-fifth of the amount guaranteed, if the shortage is accompanied by an excess of other constituent or constituents of double the commercial value, and provided further, that if the shortage does not exceed 20 per cent of the amount guaranteed, otherwise, the purchaser may receive as damage twice the amount of the value of such shortage.

Sec. 10. Any manufacturer, dealer, agent, or other person who shall adulterate, add to or take anything from any fertilizer, sold or offered for sale, within this State, shall be deemed guilty of a misdemeanor, and shall upon conviction thereof in any Court having jurisdiction be punished by a fine not to exceed two hundred dollars ($200.00) and imprisonment in jail not exceeding six months, or by fine and imprisonment at the discretion of the Court before whom he shall be tried.

Sec. 11. This act shall not apply to substances and materials sold in bulk to manufacturers or manipulators of fertilizers, nor shall it be required to be registered with the State Chemist as required in Section 2 (A), any formula mixed after the formula furnished by the consumer; provided, in lieu of such registration, all such packages of fertilizers shall be plainly marked or tagged with the words "Mixed to Order," and be accompanied by a statement giving the guaranteed analysis and in all other particulars conform to this Act.

Sec. 12. It shall be the duty of the State Attorneys to prosecute all persons accused of violating this Act or any of the provisions of this Act.

Sec. 13. All Acts and parts of Acts inconsistent herewith are hereby repealed.

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